

1972

Distribution and abundance of calanoid copepods in the York River Estuary, Virginia, 1968 and 1969

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SCIENCE AND IMAGINATION IN ANGLO-AMERICAN
CHILDREN'S BOOKS, 1760-1855

A Dissertation

Presented to

The Faculty of the American Studies Program

The College of William and Mary in Virginia

In Partial Fulfillment

Of the Requirements for the Degree of

Doctor of Philosophy

by

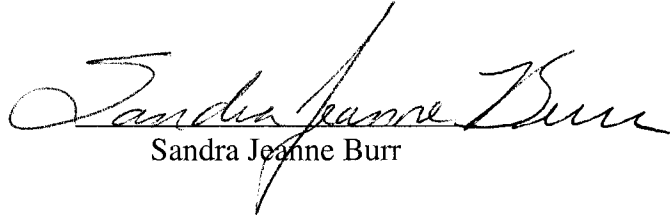
Sandra Jeanne Burr

2005

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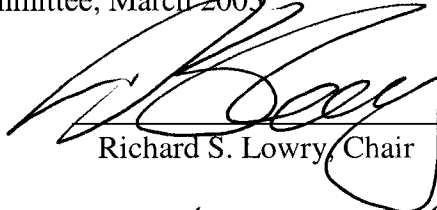
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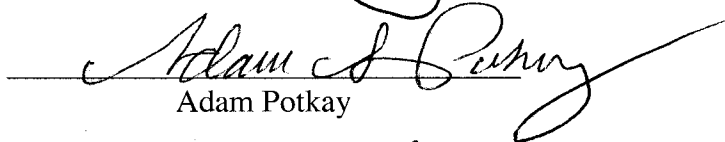


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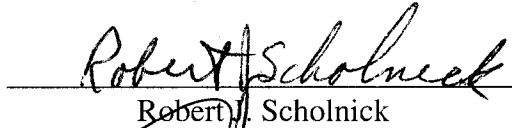
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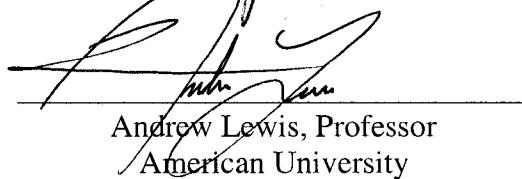
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To Mom and Bob, to David Morrill, and to Alan

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ABSTRACT

Didactic, scientifically oriented children's literature crisscrossed the Atlantic in the eighteenth and nineteenth centuries, finding wide popularity in Great Britain and the United States; yet the genre has since suffered from a reputation for being dull and pedantic and has been neglected by scholars. Challenging this scholarly devaluation, "Science and Imagination in Anglo-American Children's Books, 1760-1855" argues that didactic, scientifically oriented children's books play upon and encourage the use of the imagination. Three significant Anglo-American children's authors—Thomas Day, Maria Edgeworth, and Nathaniel Hawthorne—infuse their writings with the wonders of science and the clear message that an active imagination is a necessary component of a moral upbringing. Indeed, these authors' books, most particularly *Sandford and Merton* (1783-1789), *Harry and Lucy Concluded* (1825), and *A Wonder-Book for Girls and Boys* (1852), are more than mere lessons: they are didactic fantasies intended to spark creativity within their readers.

These didactic fantasies are best understood in the context of the emerging industrial revolution and the height of the Atlantic slave trade. These phenomena, combined with the entrenchment of classicism in Anglo-American culture and the lesser-known transatlantic botany craze, shaped the ways in which Day, Edgeworth, and Hawthorne crafted their children's stories. Certainly dramatic changes on both sides of the Atlantic during the late eighteenth and early nineteenth centuries influenced the differences in the texts. More important to this study, however, are the vital connections among these stories. Each author draws heavily upon Rousseau's ubiquitous child-rearing treatise *Émile* and upon her or his literary predecessor to create children's books that encourage exploring nature through scientific experimentation and imaginative enterprise.

Yet these writers do not encourage the imagination run amok. Rather, they see the need for morally grounded scientific endeavor, for which they rely primarily on classicism and on gender ideology. Incorporating tales of the ancient world to inculcate the ideal of a virtuous, disinterested, and learned citizen responsible to the larger body politic, the three children's authors—but most notably and explicitly Hawthorne—tie a romanticized, classical past to the emerging industrial world.

SCIENCE AND IMAGINATION IN ANGLO-AMERICAN
CHILDREN'S BOOKS, 1760-1855

INTRODUCTION

In his book *Inventing Modern: Growing Up with X-Rays, Skyscrapers, and Tailfins* (2003), professor emeritus and engineer John Lienhard waxes eloquently upon the creative and pedagogical benefits of what he calls literature “created specifically for the boys of *Modern*—from the late nineteenth century into the 1950s” (192). Combining scientific principles with manual crafts, technological applications, and imaginative derring-do, as well as capitalizing upon the “ancient theme of the boy-as-adventurer,” these books taught gender-specific audiences how to “live on the edge” by showing them how to make pipe bombs, sulfuric acid, and X-ray machines (199, 194). As Lienhard confesses his own boyhood romance with *The Boy Mechanic: 700 Things for Boys to Do* (1913) and the similarly titled *Boy Scientist* (1925), he notes that “boys like [him] took these stories to heart,” for “behind [their] risk taking in technology lay [their] desire to be heroes” (201). Moreover, he explains, “My generation really did learn how things worked from books like this. They shaped us; taught us rashness and naiveté; and made it very clear that what one fool can do, another can also do” (203). His case in point: NASA engineer Homer Hickam, whose autobiographical *Rocket Boys* (1999), recreated in the movie *October Sky*, relays how the young Hickam and three of his friends translated scientific instruction into ingenious, national award-winning rocketry (201-02). “Once upon a time,” Lienhard concludes, “we all understood that the game was not

to *follow* the instructions they provided, but to *elaborate upon* them. We read those surrealistic instruction manuals and then let our imaginations flow” (203).

“Once upon a time,” however, extends much earlier into the tradition of children’s literature than Lienhard may think, for popular English-language science books for juveniles date at least to the mid-eighteenth century. For instance, John Newbery’s *The Newtonian System of Philosophy Adapted to the Capacities of Young Gentlemen and Ladies* (1761), a collection of six lectures on topics ranging from the solar system to man’s five senses, introduced elementary science as a “mode of play” through children’s toys and, with the help of illustrations, rendered “the wonders of nature immediately available” to young readers for nearly eighty years (Secord 132, 133). The top contender of the late eighteenth and early nineteenth centuries, however, has to be Thomas Day’s *The History of Sandford and Merton: A Work Intended for the Use of Children* (1783-1789), which *Atlantic Monthly* lionized as “second only to ‘Robinson Crusoe’ in the youthful judgment of the great boy-world” (“John André” 724). Widely reviewed and critically acclaimed upon publication, *Sandford and Merton* arguably became the most popular transatlantic children’s book of the eighteenth and nineteenth centuries. Hundreds of editions, abridgements, and parodies published well into the nineteen hundreds testify to its continually alluring mixture of scientific know-how and mental strength as embodied in its eponymous characters.¹

As important as its transatlantic popularity, however, was *Sandford and Merton*’s influence on young minds on both sides of the ocean. Virginia attorney Lucian Minor credits this book with infusing his boyhood mind in the early nineteenth century with a superlatively supple awareness of his surroundings. “It gave adroitness in shifting for

ourselves amid difficulties,” he asserts, “a low sort of *savoir faire*. And, by sending us much into the fields and woods, it made us observant of nature in some respects. Before eight years of age I knew all the trees common in our woods” (qtd. on Lowell 165).

Sandford and Merton also tops the list of “Good Books” for “Children Eleven and Twelve Years of Age” in Lydia Maria Child’s popular American manual *The Mother’s Book* (1831), followed by her observation that it is “deservedly a great favorite, particularly with boys” (par. 29). By 1865, writers for *Scientific American* felt confident using the tale “Eyes and No Eyes” from *Sandford and Merton*—described in the article’s opening line as “an entertaining work, with which we have all been familiar in our younger days”—to illustrate the importance of observing miniscule details in “the world of mechanics, of science, [and] of art” (“Trifles” 247).² Indeed, English scientist Edward Frankland asserts in his memoirs at the turn into the twentieth century that *Sandford and Merton* “gave [him] the first impetus to observation as distinguished from hearsay,” helpful knowledge that he gained from using the text “as a reading book” at school. Moreover, he says, “it had a great fascination for me, and I persuaded my parents to buy me a copy so that I might study it more thoroughly at home” (4, 3). British naturalist and social critic Alfred Russel Wallace also fondly remembers *Sandford and Merton*, “which perhaps,” he claims, “impressed me even more deeply than any” other book from his childhood, including “Little Red Riding Hood” and “Jack and the Beanstalk” (1:20; see also 1: 22-23). Not everyone, of course, waxed fervently in favor of Day’s text. Charles Dickens hated the character of Mr. Barlow, the boys’ tutor, who, according to James T. Fields, “was the favorite enemy of his boyhood and his first experience of a bore” (240). New England author and poet Thomas Bailey Aldrich found Harry Sandford to be rather

“priggish” (par. 19), while Brander Matthews, in a review of *The Adventures of Huckleberry Finn*, poked fun at “the unconscious humour of *Sandford and Merton*” (n. pag.). But love it or hate it, *Sandford and Merton* was as ubiquitous as it was phenomenal. Allusions to its characters, plot, and author pepper the printed and electronic literary record, including Pisistratus Caxton’s “My Novel: or, Varieties of English Life,” Edward Everett Hale’s “Christmas in Old England and New,” *Atlantic Monthly*’s “Contributors’ Club,” Robert Dale Owen’s “Boy-Life in a Scottish Country-Seat,” Elizabeth Gaskell’s “Traits and Stories of the Huguenots,” Leigh Hunt’s autobiography, H. W. Boynton’s *Atlantic Monthly* review of Rudyard Kipling’s *Just So Stories*, and, of all places, “The First Hypertext Edition of *The Dictionary of Phrase and Fable*.”³ Even Dickens had to admit to his friend Richard Hengist Horne, the British playwright, poet, and literary critic, that “that story [*Sandford and Merton*] had great influence on many boys’ (and subsequently men’s) minds” (13 July 1848; qtd. on Rowland ix).⁴

Sandford and Merton’s author, Thomas Day, belonged to England’s Lunar Society, a free-thinking group composed primarily of the most important scientists and entrepreneurs of the day, including Matthew Boulton, James Watt, Erasmus Darwin, Joseph Priestley, and Josiah Wedgwood, who affectionately referred to themselves as “Lunatics.” Richard Lovell Edgeworth, Maria’s father, was another important member of the Lunar Society who, with his fellow Lunatics, stoked the fires of England’s industrial revolution and changed forever the geographical and cultural landscape of Great Britain through impressive scientific and technological advances. Arguably the most well-known Lunatic of the second generation, Maria Edgeworth folded into her children’s

stories the Rousseauian ideas that so infuse *Practical Education*, the influential pedagogical treatise that she co-wrote with her father. In *Harry and Lucy Concluded* (1825), a well-known transatlantic book for young people, she also drew upon her past sojourns through England's industrial Midlands, her visits with Lunar friends, and her family's taste for scientific discussion to articulate the sites, experiences, and information that would showcase as well as question the most noteworthy scientific and technological accomplishments that her father's generation still offered to the country and to the world

Harry and Lucy Concluded; Being the Last Part of Early Lessons explains “simply and familiarly, sometimes in conversations between Harry and Lucy and their parents or friends, more frequently in dialogue between the children themselves, the rudiments of science, principally of chemistry and natural philosophy, and the application of these to the common purposes of life.”⁵ As the titular word *concluded* suggests, other adventures with Harry and Lucy predate this multi-volume installment. The brother and sister first sprang to life in *Practical Education: or, The History of Harry and Lucy* as the brainchild of Honora Sneyd Edgeworth (Maria's first step-mother), who composed the title, and who then wrote the text circa 1778-79 with the assistance of husband Richard Lovell Edgeworth (Edgeworth and Edgeworth, *Practical Education* 2:302, and *Memoirs*, 2:334; Butler, *Maria Edgeworth* 63). Used as a family textbook to teach the Edgeworth children advanced reading skills, this ur-*Harry and Lucy*—not to be confused with the later Edgeworth and Edgeworth childrearing manual *Practical Education* (1798) — follows the morning routine of Lucy and her brother Harry as they wake up, dress themselves, negotiate the art of bedmaking before eating breakfast, and learn the science behind making bricks.⁶ Edgeworth senior was so pleased with what Maria calls “the very

first attempt to give any correct elementary knowledge or taste for science in a narrative suited to the comprehension of children, and calculated to amuse and interest, as well as to instruct,” that he showed it to close friend Josiah Wedgwood, another father seriously interested in the quality of his children’s education (Edgeworth, *Harry and Lucy Concluded* 1: iii; Butler, *Maria* 63n2). According to Maria, her father also “intended to have carried on the history of Harry and Lucy, through every stage of childhood,” a plan that “much pleased” Edgeworth *père*’s great friend Thomas Day, who “offered to assist him, and with this intention began *Sandford and Merton*, which was first designed for a short story, to be inserted in *Harry and Lucy*.” Unfortunately, Honora’s health, consumptive since the spring of 1779 and in serious decline a year later, diverted Edgeworth senior’s attention from the project. Her death on 30 April 1780 then so overwhelmed him with grief that it would be another twenty years before he would regain serious interest in further advancing the lives of Harry and Lucy (Edgeworth and Edgeworth, *Memoirs* 2:334-36; Butler, *Maria* 67-69). In the meantime, Day expanded and published *Sandford and Merton* separately, and Maria, ostensibly following parental advice or encouragement, included what she terms “the first part of ‘Harry and Lucy’” in her own text *Early Lessons* (1801).⁷ As Maria’s literary fame grew over the next decade, she teamed with her newly invigorated father to write another slew of adventures for Harry and Lucy, which publishers generally issued under one of two titles: *Continuation of Early Lessons* (London, 1814), which also includes new stories about Frank and about Rosamond, two other very popular fictive children within Maria’s oeuvre, or *Harry and Lucy* (Boston, 1815).⁸ Finally, in 1825, several years after her father’s death, Maria ended the brother-and-sister saga with *Harry and Lucy Concluded*.

By the time Maria began to map out the final Harry and Lucy stories, the scientific and industrial revolution had quickened. While science certainly makes its appearance in the earlier father-daughter collaborations, notably through experiments with steam and thermometers, as well as discussions about quicksilver, air pumps, and barometers, in *Harry and Lucy Concluded* Maria infuses nearly every page with “clear explanations of hygrometers, air pumps, steam engines, crystallization, balloons, bridges, roofs, gas lights, and a hundred other everyday miracles of modernizing nineteenth-century life.” Interspersed with games, poetry, jokes, riddles, and the daily banter of two children poised on the brink of adolescence, this text sparkles as its characters emulate the idea that “to be a child is to experiment” and that science is “a social practice, generated by human community and valuable as it contributes to the comforts and happiness of common life” (M. Myers, “*Aufklärung*” 114, 117, 124). Reviewers delighted in this sprightly narrative. *London Magazine* immediately deemed it a “delightful” and “very important” book, exhorting “every body, young and old, to read [it]” as well as telling “parents, guardians, teachers, &c. who do not care to be behind their little boys and girls in elementary knowledge of the principles of some of the most useful inventions, that they will do well to *get up* Harry and Lucy with all convenient speed” (49, 61). Sounding a similar note, the critic with *Literary Chronicle and Weekly Review* found the book “remarkably well got up—a matter of great consequence in all books designed for youth,” especially one focused on clearly discussing science and technology via “those interesting little personages, with whom, as well as Rosamond and Frank, all our readers, or their children, must be well acquainted” (424, 423).⁹ *Monthly Review* concurred: “One great charm of the work arises from the characters of the two

children who are its principal *dramatis personæ*. Their tempers are exquisitely sketched and contrasted” (231). Moreover, books like *Harry and Lucy Concluded* were necessary to help the youngest generation secure its intellectual acuity and elite status in a changing world. “We cannot remain ignorant of science, even if we would,” the critic argued.

The lower ranks are pushing up to our station in knowledge, and, to maintain our elevation, we must ourselves mount higher. Nor need we be alarmed at this new necessity. There is little difficulty in the task which it imposes. On the contrary, there is every reason to be assured, that the scientific education of children is not only easy in itself, (as it is most certainly delightful to them,) but is the mode of instruction best suited to aid the growth of their mental powers.

With scientific understanding well in hand among their youngest members, the upper classes would retain control over “the most important of those arts, by which society is at once improved and embellished, commerce extended, civilisation forwarded, peace rendered,” and “the wealth, the happiness, and the dignity of mankind urged in a career of perpetual advancement” (228). Thus Maria’s latest venture into science writing promised exhilarating reading for old and young alike as it proffered, along with its mechanics and optics and interesting characters, an enticing platform on which to build a brilliant imperial future. Indeed, by 1858, a critic from *Living Age* could assert authoritatively that with *Harry and Lucy Concluded*, Maria Edgeworth “gave to the world one of her best works” (302).

As had its predecessors, *Harry and Lucy Concluded* enjoyed transatlantic acclaim and influence in Great Britain and the United States, spawning over twenty imprints and translations through the 1860s.¹⁰ Scottish scientist David Brewster, whose experiments with mother-of-pearl appear toward the end of Maria's narrative, "read aloud to his four boys" the entire manuscript of *Harry and Lucy Concluded*, which, he happily reported to the anxious author, "afforded much pleasure" to the youngsters (qtd. on Gordon 123). Similarly, across the Atlantic in North Carolina, Rachel Mordecai Lazarus discovered that her daughters were "anxious to become more thoroughly acquainted with the subjects" that she read to them from *Harry and Lucy Concluded*, which she had also shared with her husband, to his "surprise and pleasure." Moreover, finishing the book had reduced her to tears, for "the emotions it had excited," she confessed to Maria, "were such as we feel in parting with friends whom we admire and love" (Lazarus and Edgeworth 102, 105, 113). Lazarus was not alone in her assessment or her emotional investment. Boston author Edward Everett Hale, perhaps most famous for his short story "The Man without a Country" (1863), remembers in "A New England Boyhood" (1892) the real pleasure that he gained as a youth from "the last part of Harry and Lucy." "We read of those children almost as if they were personal friends," he avers, "a good deal as a younger generation has read of Rollo and Jonas, and a certain Susy in the Susy books." Inspired by the siblings' scientific endeavors, he also tried to imitate them. "Of course the physical science in Harry and Lucy had its part in our philosophical experiments," he says prosaically, as if no other action were possible (345). Yet perhaps no individual was as strongly influenced by *Harry and Lucy Concluded* as John Ruskin, whose references to the siblings are so numerous that readers are advised to thumb through the indices of

his texts for help in locating them. Ruskin's fascination with the siblings manifested itself at the age of seven in a "little red" homemade booklet. "Ruled with blue, six inches high by four wide, containing forty-five leaves pencilled in imitation of print on both sides," with the title page written "on the inside of the cover," this manuscript was meant to be his own four-volume version of Edgeworth's *Harry and Lucy Concluded*, complete with copper plates (35:52, 53). While Ruskin ruefully acknowledges that he "accomplished but one and a quarter" of the "promised four volumes," he indicates that the booklet does contain six poems inspired by the siblings' adventures, including one "on the Steam-engine," as well as his "first effort at mountain drawing" (35:52, 56).

Harry and Lucy helped young Ruskin do more than wax literarily, however; their model enticed him to master "the laws of practical stability in towers and arches"; stoked his already "invariable habit of watching, with the closest attention, the proceedings of any bricklayers, stone-sawyers, or paviours"; lent "an almost romantic and visionary charm to mineralogy"; and fired him with the urge "to dig a canal, and make locks on it, like Harry" (35:58, 94, 317). With the advance of years *Harry and Lucy Concluded* did not lose its charm for the adult Ruskin, who could comb through his texts, such as *The Stones of Venice*, and find examples of his inner "little Edgeworthian gosling," who could not help but describe a particular invention in the most glowing terms (11:125n1). Science and technology as wielded by Harry and Lucy sparked a lasting enthusiasm among transatlantic readers, who seemed to grasp within these subjects and fictive characters "a belief in infinite possibility"—which, as Charlotte Yonge once said, "is dear to the young, and very good for them" (613).

That eighteenth- and nineteenth-century genteel juvenile audiences in Great Britain and the United States shared similar tastes is a function of the transatlantic nature of early American children's literature. Lacking well into the nineteenth century an English-language literary marketplace that would sustain native industry beyond sermons, almanacs, newspapers, and hornbooks, American booksellers and readers turned primarily to British imports for the latest in the arts and sciences for adults and for children (Avery 2). Thus *Sandford and Merton*, while written by an Englishman, also can legitimately be considered an early American children's book by virtue of its transatlantic market and audience. Recognizing this "transatlantic dimension" of American literary history, argues Michael Winship, is essential to forming "a broader, international perspective" of American literature and culture (99, 107-108)—particularly in an era when globalization and the electronic highway challenge national boundaries rigidly conceived. Thus in the nineteenth-century transatlantic book trade of American publishing firm Ticknor and Fields, whose lists included texts by Thoreau, Longfellow, Hawthorne, and Emerson, as well as Dickens, Scott, Tennyson, and Kingsley, Winship urges scholars to recognize a vital fostering of "an international, Anglo-American literary culture" (108, 107) shaped by the same transatlantic trade that so marks early American children's books.

A Wonder-Book for Girls and Boys (1852), Hawthorne's resoundingly popular and highly praised collection of Greek myths for children, exemplifies an American-produced transatlantic counterpart to Day's and Edgeworth's books for young people. Never out of print since its publication, *A Wonder-Book* spawned a cottage industry that generated hundreds of editions, imprints, and adaptations, including translations into

Braille, Chinese, Japanese, French, Italian, Spanish, Polish, and Urdu; an equally successful sequel entitled *Tanglewood Tales for Girls and Boys; Being a Second Wonder-Book* (1853); special editions illustrated by renowned artists Walter Crane, Howard Pyle, Maxfield Parrish, and Arthur Rackham, among others; dramatizations of the various stories from both *A Wonder-Book* and *Tanglewood Tales*; a 1915 vocal score with piano for a three-act operetta inspired by *A Wonder-Book*'s "Paradise of Children"; a symphonic poem based on *A Wonder-Book*'s "The Chimera," which served as a master's thesis in 1931; filmstrips with sound cassettes and a teacher's guide issued in 1981; books on tape published in 1969 and 1982; a VHS school video produced in 1989; and juvenile operas of *A Wonder-Book*'s "Paradise of Children" and *Tanglewood Tales*' "Circe's Palace" pressed into CDs in 1998 and 2002, respectively.¹¹

Critics unanimously supported Hawthorne's foray into "old classical legends," noting how amiable and agreeable they found the "vein of airy gayety" running through the volume in place of the "stern, though irresistibly fascinating horrors, which he wields with such terrific mastery in his recent productions," namely, *The Scarlet Letter* and *The House of the Seven Gables*.¹² "Child and man will love this work equally well," predicted *Harper's New Monthly Magazine* (138). *The Living Age* agreed, noting that "the child and the man, gentle or simple, equally imbibe [Hawthorne's] meaning," making *A Wonder-Book* "the *beau ideal* of a Christmas gift for the approaching season" (48). Not to be outdone, the critic with *New Englander and Yale Review* "place[d] this child's book among the best works which [Hawthorne] has written," having read "nothing of his which either more displays the easy and graceful workings of genius, or more captivates every faculty of the mind of the reader" (156). In 1869 the same journal

used *A Wonder-Book* and *Tanglewood Tales* as models against which to judge William Morris' collection of stories from Northern European legend and Greek mythology, entitled *The Earthly Paradise: A Poem* (Boston: Roberts Brothers; New Haven: Judd & White, 1868; 206). *Atlantic Monthly* continued to praise *A Wonder-Book* in 1884 and 1893 as it publicized Houghton, Mifflin's newly illustrated versions featuring the talents of F. S. Church and Walter Crane, respectively. Horace Scudder perhaps best summed up *A Wonder-Book*'s critical reception when he envisaged in 1885 "an immortality of fame" for the 1852 publication and its 1853 sequel. As Hawthorne "illustrates in a delicate and subtle manner the line of Juvenal which bids the old remember the respect due to the young," Scudder states, he "Yankeeize[s]" or "succeed[s] in naturalizing the Greek myths in American soil," thereby encapsulating for the world the "genius" that alone can stimulate "the old rods" to "blossom[...] with a new variety of fruit and flower" (762).

The felicitous grafting of Old World and New that Scudder sees within *A Wonder-Book* renders botanical the warm reception that readers gave the book on either side of the Anglo-American Atlantic. English poet William Cox Bennett sent Hawthorne "a very loving and admiring letter," wrote Sophia Peabody Hawthorne to her father in February of 1853. "And at the end he says his 'Baby May' bids him 'send Mr. Hawthorne a kiss for his promise of a Wonder Book'" to be published as a sequel to the 1852 original.¹³ American librarian Caroline M. Hewins remembers an equally intimate moment connected with Hawthorne's text:

"The Wonder Book" was on my pillow when I opened my eyes on the morning of my seventh birthday. The purple-

covered “Tanglewood Tales” with Proserpine and Europa, Theseus, Jason and Circe is still mine; but the dear green “Wonder Book” with the Hammatt Billings pictures of the groups of children on Tanglewood porch, Perseus holding up the Gorgon’s head, King Midas, Pandora, the three Golden Apples, Baucis and Philemon and the Chimera vanished long years ago, and not even the Walter Crane or Maxfield Parrish editions will ever take its place. (66)

In this moment Hewins exemplifies literary critic Bliss Perry’s comment—itsself a subtle remark on the transatlantic literary marketplace—that “the happiest memories of Hawthorne’s readers, as of Kipling’s readers, hover about his charming stories for children.” Perry may well count himself among this group, for he muses that “to have missed ‘The Wonder-Book’ is like having grown old without ever catching the sweetness of the green world at dawn” (par. 3). While most readers forego the botanical rhetoric in which Perry indulges, the vitality with which readers of all generations continue to greet *A Wonder-Book* in the early twenty-first century calls to mind Scudder’s late nineteenth-century notion that Hawthorne’s fertile talent could propagate a literary culture with just one book. In 2001, historian and social critic Arthur M. Schlesinger, Jr., wrote that he loved the “marvelously rendered” myths in “The Wonder Book and Tanglewood Tales” as a child (par. 5), a feeling that parallels those of early twentieth-century children, according to a December 2003 public radio broadcast. In this piece, Rita Smith reports that “in September 1902, *St. Nicholas Magazine for Boys and Girls* issued a call for their young readers to recommend the best books for children under ten”; the “only stipulation

was that they couldn't recommend Mother Goose, the Brothers Grimm, or Hans Christian Andersen since everyone already knew about fairy tales and nursery rhymes." When the results were published in the January 1903 issue, Hawthorne's *Wonder-Book* placed third, missing out only to Frances Hodgson Burnett's *Little Lord Fauntleroy*, which came in first, "followed very closely" by Lewis' *Alice in Wonderland* (pars. 2, 3). By 2004, many home-schooling mothers would agree with the high marks that children a century ago gave Hawthorne's text. Ranking *A Wonder-Book* a "not-to-be-missed read aloud[...] for young children" in its list of "1000 Good Books," the Classical Christian Home-schooling website electronically advocates a historically vital transatlantic response to this mid-nineteenth-century publication.¹⁴

Whereas twenty-first-century home-schoolers eagerly meet on the Internet to improve upon their pedagogical models, the nineteenth-century Hawthorne was content with breathing the rarified air of cultural reform that swept through his native Massachusetts. After he married Sophia Peabody in the early 1840s and moved into the Old Manse in Concord, he found himself surrounded by what Michael J. Colacurcio has dubbed "the newspaper of the age" (30): Emerson, Thoreau, Longfellow, Ellery Channing, Bronson Alcott, Margaret Fuller, Elizabeth Palmer Peabody. Each time the Hawthornes moved the list would grow, until by 1851 it had swollen to include Catharine Sedgwick, Herman Melville, Horace Mann, James T. Fields, Charles Putnam, James Russell Lowell, Charlotte Cushman, and Grace Greenwood. Hawthorne conversed and debated with this lively community of writers, publishers, and politicians through sporadic visits and correspondence, which, added to his considerable reading, kept him plugged in to the intellectual currents crisscrossing the Atlantic. Although keen on

maintaining solitary literary study, and mindful of personal time with his wife and children, he saw value in networking and in sustaining a haphazard but constant connection to firm friends and professional contacts. Indeed, in this way he bears more than a slight resemblance to Thomas Day, who preferred a life of relative quiet with wife Esther but readily enjoyed hosting friends and family and respecting epistolary commitments among the Lunar circle and other political and cultural movers of his era. Maria Edgeworth, on the other hand, lived amid a multi-generational household eager to host visitors, so her domestic life could be personal and social by virtue of the number or nature of Edgeworthstown's ever-changing residents. She also corresponded regularly with far-flung family members, as well as scientific and literary friends across Europe and the United States, and was a voracious reader when she could shift attention away from writing or domestic responsibilities. Aided by these intellectual and personal ties, Day, Hawthorne, and Edgeworth kept fingers on the steady pulse of a burgeoning transatlantic Anglo-American culture.

This brief look at Day's, Edgeworth's, and Hawthorne's cultural milieus, as well as the ways British and American audiences responded to *A Wonder-Book*, *Harry and Lucy Concluded*, and *Sandford and Merton*, suggests that an in-depth transatlantic analysis of early English-language children's books would be mindful of the "international, Anglo-American literary culture" that Michael Winship urges scholars to acknowledge, and would open up, explore, and make more complex the literary, pedagogical, and cultural connections among these particular texts. This study therefore traces how Thomas Day, Maria Edgeworth, and Nathaniel Hawthorne—arguably the three most popular and enduring transatlantic children's writers between the late

eighteenth and mid-nineteenth centuries—elaborate upon the scientific curriculum described in Rousseau's *Émile* (1762-1763) and then appropriate and revise each other's pedagogical models. In so doing these authors use science to stimulate children's imaginations and to foster the notion that a genteel Anglo-American elite would be best equipped intellectually and emotionally to act as comforting moral arbiters in an increasingly turbulent, industrializing world. Indeed, invigorated by *Émile*'s emphasis on science and creativity, as well as the moral progress that education promised, Day, Edgeworth, and Hawthorne infuse *Sandford and Merton*, *Harry and Lucy Concluded*, and *A Wonder-Book*, respectively, with the same progressive, pedagogically oriented, transatlantic ideology that so animated their circles.

Perhaps the most significant parallel in the Day-Hawthorne literary continuum is the reform-minded attitude informing the authors' respective spheres. Lunatics Wedgwood, Darwin, and Richard Lovell Edgeworth, for example, poured considerable time and effort in the growth and development of their local infrastructures, lobbying for improved economic conditions and expanded civic welfare. Education provided yet another avenue for innovative ideas and methodologies through teaching, curriculum planning, writing, and experimentation. Day's close friend William Small taught mathematics, physics, and metaphysics from 1758 to 1764 at The College of William and Mary, where he introduced several innovative pedagogical methods and subjects. Teaching also proved fertile ground for Joseph Priestley, who used his experience in the classroom to develop the basis for his highly influential textbook *Rudiments of English Grammar* (1761). Traditional schools and curricula also impelled several Lunar friends to devise better pedagogical methods. To arm their children for a future both learned and

commercial, Darwin, Wedgwood, and Richard Lovell Edgeworth instituted their own home schools and curricula. Edgeworth and Day even engaged in pedagogical experiments à l'*Émile*. Whether planning, writing about, or experimenting with education, the Lunar set entertained great hopes that human ingenuity, mixed with scientific understanding, would evince in posterity enduring examples of moral progress.

The Transcendental folks surrounding Hawthorne were no less fervent in their hopes for lasting social and moral improvement. Indeed, among the progressive intellectuals who clustered around New England, philosopher and educational reformer A. Bronson Alcott probably was most worthy of being dubbed a latter-day Lunatic. Following in the Lunar footsteps of Richard Lovell and Maria Edgeworth—who gave conversation primary pedagogical emphasis in the Edgeworth home school, in their co-written text *Practical Education* (1798), and in Maria's children's books—Alcott conducted Socratic dialogues at home with his daughters and in his Temple School with his students. Temple assistant Elizabeth Palmer Peabody recorded these informal dialogues, which Alcott published as *Conversations with Children on the Gospels* (1836). Both Edgeworths and Alcott thus “literalised the ‘conversation’ Hume in his *Essays* and Adam Smith in his *Theory of Moral Sentiments* (1759) set such store by,” creating, in effect, miniature models of a civil moral society they wished to see replicated on a wider scale (Butler, “Irish Culture” 160-62). Hawthorne himself briefly shared Alcott's hope for a utopian community. While both men invested time, energy, and slim capital in abortive progressive communities, Hawthorne endured the bitter material realities at Brook Farm far better, and longer, than did the ethereally minded Alcott at the notoriously short-lived Fruitlands. Thoreau, on the other hand, outlasted both of them in

his Walden hut, assuaged, no doubt, by frequent trips to town for lunch and other such niceties. Human frailty aside, Hawthorne's milieu wholeheartedly embraced Rousseauian *possibility*. Emerson promoted practical experience over rote memorization in schools. Margaret Fuller and Elizabeth Palmer Peabody embodied early feminist endeavor, pushing professional boundaries as writers and editors. Thoreau embraced abolition and civil disobedience. Like Day, Hawthorne could not, and would not, claim poster-boy status in the progressive schemes of his intellectual community; but his determination to *try* for literary success in a notoriously difficult and fickle market gained impetus from the philosophical energy coursing through his corner of Massachusetts.

The resonant transatlantic interstices of science, creativity, and pedagogy in *Sandford and Merton*, *Harry and Lucy Concluded*, and *A Wonder-Book* also offer a rich new approach to children's didactic fiction in Britain and the emerging United States. Traditionally dismissed as sermonizing and static, with Day and Edgeworth sharing honors as its most egregious authors, this genre of children's literature has been repudiated by critics for far too long.¹⁵ Studies like Samuel Pickering's *John Locke and Children's Books in Eighteenth-Century England* or Sylvia Patterson's *Rousseau's Émile and Early Children's Literature* primarily regurgitate plots and ignore the cultural and literary dynamics at work within the texts. "If juvenile poems or prose do appear" in scholars' critiques of the Romantic canon, "they typically function like Cinderella's ugly stepsisters—the puerile or, if religious, senile foils who glamorize Wordsworth or Blake, those founding fathers who (along with Locke, Rousseau, and occasionally Coleridge and Lamb) gave birth to modern literary childhood" (M. Myers, "Reading Children" 45). Even more balanced and informative offerings, such as Gillian Avery's *Behold the Child:*

American Children and Their Books 1621-1922, perpetuate the normative notion that American children's literature is so different from its English models that their dissimilarities make for far more interesting copy. Impinging on this perspective is the literary celebration of childhood imagination, which scholars traditionally equate with the surge of late nineteenth-century British fantasies such as *Alice in Wonderland*, *The Water Babies*, and *At the Back of the North Wind*. Dubbed the harbingers of juvenile literature's Golden Age, these creative narratives, however enjoyable and interesting, nonetheless benefit from a steadfast scholarly orientation toward one time period and one place of origin that ignores the sweeping movement of ideas crisscrossing the Atlantic in the years between 1760 and 1855. By refocusing attention on the transatlantic and on the richly layered interplay of imagination, science, and pedagogy, this study aims to stimulate important, provocative scholarship on a deserving but languishing area of juvenile fiction.

Moreover, these narratives offer unique media for analyzing a new and little-pondered direction in children's literature scholarship: notably, the ways that didacticism and the imagination interact within didactic children's fiction. Following Alan Richardson's and Mitzi Myer's suggestions that didacticism and fantasy may function interdependently ("Wordsworth" 34-53; "Romancing the Moral Tale" 96-128), my study argues that, contrary to traditional thinking, the imagination flourished in Anglo-American children's literature between 1760 and 1855. It thus explores how Day, Edgeworth, and Hawthorne, grafting Rousseau's synthesis of science and the imagination in *Émile* into their own texts, propagate children's moral growth and self-discipline in a lively, inventive manner. In so doing these authors write children's didactic fantasy, a

new genre that, over time, advocates the imagination as the prevalent moral faculty in nineteenth-century Anglo-American culture. The newly emerging wonders of science, in fact, provide the perfect literary vehicle for stimulating fictive children's creativity and securing their enthusiastic attention, as well as the attention of transatlantic readers. This perfectly reasonable historical response to the emerging world of science and industry, although experientially lost to twenty-first-century readers, is an important intellectual reminder about historical relativity, as well as intriguing proof confounding didacticism's morbidity.

Yet this investigation raises further and perhaps more interesting questions about the role of science in these texts. Why is science a moral stimulant or corrective? How does the industrial revolution affect science's influence? Does the so-called Romantic conceptualization of the imaginative child play a role in this transatlantic cultural narrative? The answers lie within the interconnections among the industrial revolution, the Atlantic slave trade, the transatlantic botany craze in the eighteenth and nineteenth centuries, and the entrenchment of classicism in eighteenth- and nineteenth-century Anglo-American culture.

As Raymond Williams explains in his classic *Culture and Society*, the “fundamentally new social and cultural relationships and issues which were part of th[e] historically decisive transition” from a traditional rural society to a rapidly industrializing one “were first felt, in their intense and unprecedented immediacy, within” English culture (x). Specifically, across the late eighteenth and early nineteenth centuries, both new words as well as new meanings for normative words emerged in the linguistic mainstream. *Industry*, *art*, *class*, *culture*, and *democracy* gained resonant denotations that

emphasized entities outside of but wielded and controlled by the human body in accordance with changes in production methods and in society (xiii, xiv). Thus, in addition to signifying the idea of human skill and perseverance, *industry* became “a collective word for our manufacturing and productive institutions” (xiii), while *art* morphed into a “special creativity” (xv). *Culture* gradually incorporated the notion of a unique noun, or “thing in itself,” that encompassed meanings ranging from “a state of intellectual development in society as a whole” to a specific intellectual, spiritual, and material way of life (xv). This linguistic change also shifted the “character” of and the “attitudes towards” England’s class divisions (xv) as market capitalism rearranged relationships between labor and management and the values placed on those relationships. Instituting “new kinds of personal and social relationships” (xviii), the industrial revolution, aided in no small way by its symbiotic partner the Atlantic slave trade, created daunting moral issues that Day, Edgeworth, and Hawthorne registered in their children’s books as they grappled with increasingly vexed ideas concerning labor, morality, and humanity.

With this new linguistic and cultural emphasis on science and technology’s industrial processes there gradually emerged a strong binary between the mechanical and the organic “which lies at the very centre of a tradition which has continued to our own day” (R. Williams 37). Concurrently, folk and fairy tales became popular and influenced British Romantics to reject earlier views of children as small adults lacking moral rectitude, or as pliable ciphers requiring strict monitoring, and to re-cast children as pure creatures conveying the spontaneity and simplicity of the natural world, a notion captured in Wordsworth’s “Ode: Intimations of Immortality from Recollections of Early

Childhood” (1807). While Romantics explored nature through poetic mediums, scientists and manufacturers plumbed it through experiments in chemistry, physics, agriculture, and metallurgy. Unlocking nature’s secrets through human ingenuity made nature itself seem more supple than formerly believed, especially for children and adults caught up in the botany craze that swept England and the United States in the eighteenth and nineteenth centuries. Popularized by Linnaeus’ systemization of plant physiology, botany and its numerous cultural outgrowths propagated for old and young alike the idea of nature’s mutability, which proper scientific knowledge could contain through Linnaean terminology and through the various vocabularies introduced in children’s science books, which also prospered in the transatlantic literary marketplace throughout this era. That the children emerging from the pens of Day, Edgeworth, and Hawthorne embody the shifting tensions between various cultural representations of the organic and the mechanical testifies to the authors’ ambivalent familiarity with the social stresses in their historical worlds.

Adding another layer to this dense interaction of transatlantic cultural currents is the role of classicism in England and the United States across the eighteenth and nineteenth centuries. Drawing on connotations of purity, morality, and pedagogical probity in classical antiquity, including classical Roman republicanism and the Greek *polis*, biographies of Greek and Roman statesmen, and the languages and mythology of Rome and Greece, the Anglo-American elite sought in ancient times the ideal models for creating virtuous, disinterested, and learned citizens capable of sustaining the larger body politic. Thus in Day’s tales of Spartan strength and Hawthorne’s versions of Greek myths, classical antiquity represents a moral exemplar strengthened by the elite’s

appreciation for the civic and personal virtue that Greek and Roman cultures represented and propagated. Functioning as discursive moral restoratives, these narrative devices lend credence to science and to the imaginative scientist as valuable cultural arbiters in an increasingly complex industrializing Anglo-American world.

Chapter I, “Spartans and Scientists: Cultivating the Cool, Considerate Man in *Sandford and Merton*,” argues that Day initiates in transatlantic children’s fiction a distinctive Lunar mission that precedes the rags-to-riches method associated with Benjamin Franklin’s 1791 *Autobiography*. Closely adhering to Rousseau’s pedagogical premise, Day weaves his narrative of success around a balanced curriculum of intellectual and physical labor. Through daily conversational lessons in elementary science, reading, and gardening, as well as extracurricular opportunities for personal growth and experience, young Harry Sandford and Tommy Merton learn that individualized effort and motivation, creative license, and self-discipline lead to cultural accomplishment, here defined as continuing upper-class leadership in the emerging commercial world of science and industry. Scientific knowledge, in fact, promises and provides special guardianship over nature and society, allowing children to strive for cultural leadership without wasting energy on moral apprehensions.

In Chapter II, “Gothic Machinery: Refining Morality in *Harry and Lucy Concluded*,” science and technology are bigger and better than ever; so, to provide her juvenile readership with updated ideas for negotiating this exciting new world and for keeping moral and intellectual progress safely monitored, Maria Edgeworth revises Day’s Rousseauian pedagogical model. She replaces Barlow’s cicerone with a sibling companion, introduces a girl as the companion’s team mate, ages both children to an

indeterminate but probable range of ten to fourteen years, and moves the sphere of action from a secluded garden plot to a geographical sojourn through England's industrial Midlands. In so doing Edgeworth retains Day's emphasis on general science, particularly subjects concerning spatial or perspectival movement along reference points, as well as the notion that scientists are the nation's new warriors, who in Edgeworth's time are busy conquering new realms for nation and for empire. Yet she also makes clear that science in and of itself cannot play a visionary role for self or for England if scientists lack imagination and fail to figure into their calculations the importance of the Rousseauian social contract.

Chapter III, "Mercurial Matters: Flexing Moral Muscle in *A Wonder-Book for Girls and Boys*," asserts that children's intellectual and moral development takes another revisionist turn in Nathaniel Hawthorne's 1852 text. Painting a specifically New England garden landscape in place of Day's fictive English plot, and using an eighteen-year-old storyteller as an Edgeworthian companion for a dozen energetic children, Hawthorne focuses anew on creativity as the component vital to any healthy Anglo-American enterprise, including science. Unlike Day and Edgeworth, however, Hawthorne uses science obliquely in the fictive realm of Tanglewood, where it is densely layered in cultural references and figured in the children themselves to provide a provocatively pedagogical albeit unobtrusive punch. Added to the moral nicety that Hawthorne's uses of science connote are both moral and pedagogical notions that an elite, educated nineteenth-century audience would associate with Greek mythology, particularly in the figure Hermes, whom Hawthorne calls Quicksilver. This Olympian's fluid verbal play, combined with his strong scientific and domestic ties, promotes healthy imaginative

enterprise as the best visionary guide in the tricky transatlantic commercial world that the United States was part of by the middle of the nineteenth century.

By endorsing contrasting but compatible scientific and literary curricula designed to inculcate moral discipline and cultural leadership, Day's, Edgeworth's, and Hawthorne's texts provide soothing answers to cultural quandaries vexing the Anglo-American transatlantic. Moreover, by appropriating, revising, and elaborating upon the pedagogical models that preceded them, these transatlantic authors seem to have understood with the youthful John Lienhard that the game of scientific literature demanded of its readers a free and easy flow of creative invention to prepare them for success in the modern industrial world.

NOTES FOR INTRODUCTION

¹ Between 1783 and 1791, at least twelve reviews of *The History of Sandford and Merton* appeared in *Analytical Review*, *British Magazine and Review*, *Critical Review*, *English Review*, *European Magazine*, *Monthly Review*, and *New Review*, bearing testimony of critical respect and enthusiasm. By 1786, the year the text's second volume was published, *Sandford and Merton* had grown so popular that the critic for *European Magazine* called Day's literary effort "uncommonly successful" (427). Perusing the text's publishing history bears out the longevity of this claim. Among the listings in the *National Union Catalog (NUC)*, the *British Museum General Catalogue of Printed Books (BL)*, the *Bibliothèque Nationale (BN)*, and the on-line database WorldCat are hundreds of issues and imprints of the original text and its adaptations and abridgements. At least as late as 1883, Sunday schools awarded children with copies of *Sandford and Merton* (Muir 93n1).

Perhaps the most amusing offshoot is an opera entitled *The Vicar of Bray: An Original English Comic Opera in Two Acts*, with text by Sydney Grundy and music by Edward Solomon. According to the on-line Gilbert and Sullivan Archive, the opera was first performed in London's Globe Theatre on 22 July 1882 and graced the boards again in early 1892 at the Savoy Theatre. The plot is a strange mixture of a song entitled "The Vicar of Bray," in which "a clever cleric ... manages to survive the religious policies of five British Monarchs," and *Sandford and Merton*. Specifically, "Winifred, daughter of the Vicar of Bray, is in love with her father's curate, the poor (but pompous) Harry Sandford. The Vicar wants her to marry wealthy Tommy Merton, son of the local widowed landowner. In order to facilitate this marriage, the Vicar switches from Low Church to High Church, a move which so offends Harry that he agrees to take a curacy among the Casowaries," ostrichlike birds that live in the Indian Archipelago! See <http://math.boisestate.edu/gas/other_savoy/vicar_of_bray/bray_home.html> for more information on this opera.

² Here the writers are mistaken, for "Eyes and No Eyes" appears in John Aikin and Anna Laetitia Barbauld's popular English children's book *Evenings at Home*. That the folks at *Scientific American* associate the story with *Sandford and Merton* speaks to how strongly Day's science book held sway over the highly educated minds of the scientific elite.

³ See Caxton 408; Hale, "Christmas in Old England and New" 49; *Atlantic Monthly's* Feb. 1880 "Contributors' Club" 287; Owen 152; Gaskell par. 14.; Hunt 1:55-56; Boynton's 1903 *Atlantic Monthly* review, par. 2; and "Merton" in the hypertext edition of E. Cobham Brewster's 1894 *Dictionary of Phrase and Fable*, new and enlarged.

⁴ In a letter to Thomas Day dated 5 July 1786, Richard Price indicates that he has “been reading with pleasure the second volume of Sandford and Merton” and “congratulate[s] the author on the good this publication is likely to do” (Price 3:40), a hope that Dickens’s admission appears to substantiate.

⁵ See the review of *Harry and Lucy Concluded* in the March 1826 *Monthly Review* 225-33. The quotation is on 225.

⁶ Constant handling, of course, took its toll on the manuscript, so Edgeworth *père* had Lichfield publisher J. Jackson privately print the text in 1780. This rare imprint, dedicated to Joseph Priestley for his 1775 edition popularizing David Hartley’s psychological theory of association, articulates in the preface the pedagogical goal that would underlie every version of Harry and Lucy’s adventures:

to unfold in a simple and gradual manner such of the leading principles of human knowledge, as can be easily taught to children from four to ten years of age; to inculcate the plain precepts of morality, not by eloquent harangues, but by such pictures of real life, as may make a Child wish to put himself in the place of the characters intended to excite his emulation, to give by the assistance of Glossaries clear and accurate ideas of every word, which is in the least difficult, and as much as possible to lead the understanding from known to unknown problems and propositions. (qtd. in M. Myers, “Anecdotes” 231-32n24)

Tracing *Harry and Lucy*’s bibliographical history is a bit tricky, for several key resources do not (or perhaps cannot) always recognize or differentiate among the texts’ several incarnations between 1778 and 1825. For further information on the provenance of the original *Harry and Lucy*, as well as the bibliographical history of the successive stories in various editions and imprints in England, the United States, France, and Germany, see Slade 3-7, 57-79, 141-44, 182-88; Sadleir 1:117-22; Butler, *Maria*; *NUC*; *BL*; *BN*; and the online database WorldCat.

⁷ Slade contends that the Harry and Lucy tales in *Early Lessons* “were the stories inspired by the first little volume called *Practical Education* printed in 1780” (57). In *Memoirs*, on the other hand, Maria says that the printed (i.e., 1780) *Harry and Lucy* “was at last given to me, for a part of *Early Lessons*” (2:336). I have not been able to compare the two versions to determine their similarity or exactitude. Michael Sadleir’s copy of the 1780 printed text, with Maria’s signature on the inside cover, is part of UCLA’s Special Collection.

Note that *Early Lessons* is but one of the several variant titles under which these stories appeared. *Harry and Lucy: Part I: Being the First Part of Early Lessons* ([London], 1801), e.g., appears on the cover and the title page of the first volume of this

two-volume text, while “Harry and Lucy, part II: Being the Second Part of Early Lessons” appears only on the second volume’s title page. Part I covers one day in the brother and sister’s life; Part II covers two days a year later. See also n5 above.

⁸ Between 1823 and 1824, Philadelphian bookseller Robert Desilver combined all the stories from *Early Lessons* and *Continuation of Early Lessons* in *Early Lessons, in Six Volumes*, another variant in Harry and Lucy’s bibliographical maze. Indeed, based on titles alone it is nearly impossible to differentiate between the various versions of the brother-sister stories unless the word *concluded* happens to appear.

For positive reactions to the Harry and Lucy stories through 1814, see Romilly 83, 85, 95.

⁹ Imprints, translations, abridgements, and revisions of the Harry and Lucy stories, as well as those featuring Frank or Rosamond, abound in both printed and online bibliographical records and number well into the several hundreds. See n5 above.

¹⁰ Madame Belloc translated *Harry and Lucy Concluded* into *Les Jeunes industriels, ou Découvertes, expériences, conversations et voyages de Henri et Lucie* (Paris: Fortic, 1826) and into *Les Jeunes industriels, faisant suite à l’Éducation familière* (Paris: J. Renouard, 1826). Belloc and Ad. Montgolfier also included “numerous additions” to the J. Renouard issue. In 1838, Madame Viltardant provided yet another French translation entitled *Les Jeunes savans, expériences, voyages, découvertes de Henri et Lucie sous la directions de leur père* for Paris bookseller Didier.

¹¹ Originally *A Wonder-Book* was illustrated with seven “engravings by Baker from designs by Billings,” according to the book’s title page. In 1884-85 Houghton, Mifflin published the first edition of *A Wonder-Book* with new illustrations by F. S. Church, an enterprise successful enough to warrant repetition in 1892 with Walter Crane and in 1900 with Howard Pyle. Other publishing houses soon followed suit. In 1910, New York’s Duffield & Company published an edition with Maxfield Parrish illustrations. Around 1911, Philadelphia’s G. W. Jacobs & Company issued its newest version with illustrations by Elenore Plaisted Abbott and Helen Alden Knipe. Chicago’s Rand, McNally used Milo Winter’s artistic skill circa 1913, while Hodder & Stoughton, based in London and New York, secured Arthur Rackam for its 1922 edition. By 1929, Akron, Ohio’s Saalfield Publishing Company issued Fern Bisel Peat’s talents in its latest issue. See *NUC* 236:57-63, various *NUC Supplements*, and WorldCat online for more information.

Among the plays that *A Wonder-Book* inspired are Grace Dietrich McCarthy’s *Plays from the Wonder-book and Tanglewood Tales: A Dramatization for Children of Hawthorne’s Version of the Classic Myths*, which includes “The Gorgon’s Head,” “The Chimera,” “The Golden Touch,” and “A Paradise of Children” (Boston and New York: Educational P Co., 1910); and I. E. Clark’s *Pandora and the Magic Box* (Schulenburg, TX: Stage Magic Plays, 1968).

WorldCat online and *NUC* also list various vocal scores and sound recordings inspired by *A Wonder-Book*. A few examples include the following: In 1915 Clarence Edward Le Massena wrote a vocal score with piano entitled “Pandora: An Operetta in Three Acts. Founded on Hawthorne’s Story The Paradise of Children” (Philadelphia: Presser). Tapes Unlimited published sound recordings of “The Golden Touch,” “The Paradise of Children,” “Three Golden Apples,” and “The Miraculous Pitcher” in 1969. Samuel Mourse Magrill penned an opera adapted from *A Wonder-Book*, which he entitled “Paradise of Children and the Gremlins Who Stole It.” Using it with a libretto by Carveth Osterhaus, Kay Creed, and Magrill, soloists Meredith Hanebutt and Brad Milburn, along with orchestra conductor Jim Waddelow, made a sound recording on 12 Dec. 1998.

¹² See “Literary Notices” in *Harper’s New Monthly Magazine* (Dec. 1851): 137-38.

¹³ See ch. 1, vol. 2 of Julian Hawthorne’s 1884 edition of *Nathaniel Hawthorne and His Wife*. English poet William Cox Bennett (1820-1895) wrote a poem entitled “Baby May” in honor of his daughter, which can be found with his poems “Be Mine, and I Will Give Thy Name” and “A Christmas Song” in Stedman’s *A Victorian Anthology, 1837-1895*.

¹⁴ The “1000 Good Books” list was devised by “25 homeschooling mothers” who, “over the course of a year’s time,” discussed “criteria to use in choosing a good book.” *A Wonder-Book* is one of the selections for grades four through six in the “Anthologies & Poetry” category of this list. For more information, see <<http://www.classical-homeschooling.org/celoop/1000.html>>. Online postings to the K-8 Curriculum Discussion Board of the “Well-Trained Mind Parents’ Forum,” part of a different homeschooling website, also indicate that early twenty-first-century mothers and children still enjoy Hawthorne’s text. On 5 Jan. 2004, Karen Ciavo wrote that her boys would include “The Wonder Book & Tanglewood Tales by N. Hawthorne” among the family’s “must-haves” for “books on ancients.” See <http://www.welltrainedmind.com/k8curr37/messages/5806.html>>.

¹⁵ Agnes Repplier, e.g., sniffs that “Day, in Sandford and Merton, holds up for our edification the dreariest and most insufferable of pedagogues, and advocates a mode of life wholly at variance with the instincts and habits of his age.” Concerning Maria Edgeworth she is no more tolerant, labeling “Practical Education” a book “which must have driven over-careful and scrupulous mothers to the verge of desperation” (509).

Geoffrey Summerfield sounds a similar note, accusing Day of “transmogrifying perfectly decent moral and political aspirations into something stiff-necked, uncompromising and intolerant, not to say ridiculous.” He further declares, with nary a jot of evidence to support him, “It is clear that many people found [Day’s] style either repulsive or ridiculous” (148). Regarding *Sandford and Merton*, Summerfield whips out his thesaurus to embellish upon an idea that he already directed at Day: “Barlow manages to express decent principles in such a way as to inspire the reader’s revulsion or weariness. In such hands, the virtues of earnest reformers, ostensibly benign, come across as miserably lack-lustre, dull, humourless, priggish, even malign: if one could get

a word in edgeways, one would ask, 'Dost think because thou'rt virtuous, there'll be no more cakes or ale?' Or music, dancing, cheerfulness, fun, human weakness, silliness, amusement, or irony?" (157-58). Summerfield finds Maria Edgeworth to be little better than Day as a children's author. He maintains that she was driven exclusively by usefulness and morality and therefore entertained a very "nervous" "relationship with imagination" (129-39; quo. on 139). See also Percy Muir 91-93 for his run-down on why he terms *Sandford and Merton* "a feast of nausea" (91).

CHAPTER I
SPARTANS AND SCIENTISTS: CULTIVATING THE COOL,
CONSIDERATE MAN IN *SANDFORD AND MERTON*

Were all the books in the world to be destroyed, except scientific books (which I except, not to affront you) the second book I should wish to save, after the Bible, would be Rousseau's *Emilius*. It is indeed a most extraordinary work—the more I read, the more I admire—Rousseau alone, with a perspicuity more than mortal, has been able at once to look through the human heart, and discover the secret sources and combinations of the passions. Every page is big with important truth.

Thomas Day to Richard Lovell Edgeworth, 1769¹

Thomas Day's *The History of Sandford and Merton: A Work Intended for the Use of Children* (1783-1789) is a three-volume collection of stories, episodic in structure and interspersed with tales from classical antiquity, that focuses on the moral re-creation of the spoiled, upper-class Tommy Merton by the honest, resourceful farmer's son Harry Sandford. Through the guidance of local clergyman Mr. Barlow, who warmly embraces

the educational philosophies of Jean-Jacques Rousseau, both six-year-old boys learn valuable lessons about self-regulation, scientific endeavor, and moral industry as they gradually increase their understanding of the natural world and their places within it.

Theirs appears a utopia—but one predicated on the supposition that *others'* labor will provide the material means for Tommy and Harry to learn the tools of self-agency. Within this lush Eden lurks the transatlantic world of racial slavery, which stimulates and reinforces England's burgeoning industrial base and fills to brimming the coffers of landed gentlemen and entrepreneurial manufacturers. Day's philosophical unease with this very economic system, in fact, drove him to co-author with close friend John Laurens Bicknell the hugely popular poem *The Dying Negro* (1773). Throughout several revised and enlarged editions, the eponymous narrator voices increasingly apocalyptic, abolitionist sensibilities against the "European robbers" who feed their "proud Commerce" with the blood and bones of enslaved Africans (ll. 153, 396, pp.9, 22).² Surely Day's awareness of this moral intransigence would permeate the England of *Sandford and Merton*, as well as his construction of white childhood, particularly in view of increasing public pressure during the late eighteenth century to ban the slave trade and change Britain's profoundly ambivalent legislature on slavery. A brief look at *The Dying Negro* may well afford some insight.

In the poem's "Dedication," which first appears in the 1774 edition,³ Day explicitly disassociates Britain *proper* from culpability in slavery and its trade. Instead he fingers Americans, "a people who share the government and name of Britons" but "among whom the cruelty of Sparta is renewed without its virtue" (viii). By projecting blame across the Atlantic, Day can remap "Britain alone" as a temperate, enlightened

zone supported by “the sacred rights of nature” and “laws” that “are equally favourable to liberty and humanity”—a dramatic foil to the mercurial American colonies, whose “wild inconsistent” clamors “for liberty and independence” betray a constitutional disorder that slavery merely reifies (ix). Yet a shadow does darken this representation of a resplendent isle, creating a viable tension between Day’s fantasy and reality. In his denunciation of America, Day asserts, “Much as an impartial observer may find to blame in Britain, her colonies, I fear, are not more acceptable to Providence” (ix). Here he obliquely admits that Britain shares with its colonies an equal or lesser degree of guilt in transatlantic slavery, a position that is not *quite* lost amid the self-righteous diatribe. But Day is neither ready nor willing, it seems, to investigate the vexed question of slavery in the land of the Magna Carta, perhaps because of his own political affinity for the older, classical republican ideal of leisure for men of property.

Thomas Day believed in the virtuous life extolled by the classical Greeks and Romans. True citizens were men of the land, contemplating life while guiding the plow (or watching others guide it) and then directing the body politic with the fruits of this intellectual labor. They eschewed the material comforts of luxury and its attendant mental and physical corruption through continual self-sacrifice. Hard-bodied, strong-willed, they lived by the sword to protect their cherished liberty and their land, the reciprocal dyad that buoyed and sustained their existence (Pocock 49-80, 183-218, 361-400). Dyad, however, is a misnomer, for the citizenry’s leisure also depended on slave labor, of which Day was fully aware. Yet the republican ideal still blazed for him, despite Britain’s transition into a credit-based economy, the threats to classical citizenship that this change portended, and the country’s deepening commercial and

technological investment in the slave trade.⁴ Day recognized and even participated in this cultural shift, investing in navigational securities, lending money to his entrepreneurial friends to support their industrial inventions, and stumping (albeit briefly) for an expanded voter base as a member of the Society for Constitutional Reformation.⁵ The classical life, however, proved a greater love, which Day attempted to replicate on his Surrey estate. Perched on some of England's most infertile soil he trod his land and attempted agricultural miracles with the help of the latest literature. In his leisure he attended to the spiritual and material needs of the nearby poor, providing Sunday chapel in his home and year-round employment for all comers. His wife, Esther, supported these efforts, knitting and distributing caps, socks, and shirts and tempting failing appetites with light edibles (Keir 47-48, Kippis 23; Edgeworth, *Memoirs* 2:93-94).

Conscious as well of the body politic, Day also contributed to the political literature of the time. *A Fragment of a Letter Written on the Slave Trade* (written 1776, published 1784), addressed to the ex-president of congress, Henry Laurens, whom he later befriended during Laurens' captivity in the Tower of London between late 1780 and 1781, points out the slave trade's atrocities. *Reflexions upon the Present State of England and the Independence of America* (1782) urges cessation of British hostility toward America and commencement of friendly diplomatic and trade relations for the future betterment of both countries and citizens. *The Letters of Marius; or Reflexions upon the Peace, the India Bill and the Present Crisis* (1784), *A Dialogue between a Farmer and a Justice of the Peace* (1784), and *A Letter to Arthur Young, Esq., on the Bill Depending in Parliament to Prevent the Exportation of Wool* (1788) continue Day's ongoing harangue against corruption and questionable sensibilities in British government and for a return to

the peaceful embrace of civic virtue. Britain undeniably confounded his idealistic standards, so Day invested his dreams in *Sandford and Merton's* idyllic, fictional counterpart; ironically, however, it reverberates with the same oscillating tensions between traditional and emerging worlds as those within the historical England that Day tries to transcend. The establishment evinces its moneyed leisure through land and people paternally controlled. Likewise, a rising world of science and industry sustains itself on the backs of slaves but presents its success as the sole consequence of white intellectual and mechanical invention. Disturbing moral questions about labor supply and capital swirl beneath this Edenic domain, but Day appears to ignore them. Instead he focuses on educational theories from *Émile* (1762), which invests humanity's moral future in a fictive, rich white boy who potters about the flora. Yet as this idealized childhood suffuses an already idealized countryside, Day devises, in effect, a sop to slavery's ongoing presence by presenting a guide to moral pre-eminence for Anglo posterity. Combining Spartan, Stoic, and Rousseauian sensibilities in the rhetoric of plant cultivation, scientific investigation, and martial combat, Day constructs a pedagogical model that rewards sustained, creative reflection and dogged industry with moral guardianship of the natural and civilized worlds.

Émile

At the heart of Harry and Tommy's education lies Rousseau's *Émile*, an idealistic pedagogical treatise that passionately advocates nature as humanity's moral safeguard against civilization's toxic influences. Rousseau's contempt for society's superficial values, couched in vigorous prose, profoundly influenced the young Thomas Day (1748-

1789), who was only fourteen upon *Émile*'s publication in French and about fifteen when the first two English translations became available at London booksellers between 1762 and 1763.⁶ Records do not show when, specifically, Day read *Émile*, but his enthusiastic letter to close friend Richard Lovell Edgeworth in 1769 reveals that Day definitely had read it by the time he had turned twenty-one. In this letter we learn that Day was most familiar with one of the first two English translations of the text, both of which were entitled *Emilius*⁷; moreover, we see reiterated in Day's excitement the ardor with which Rousseau persuaded generations of parents to teach their children the value of nature. "Rousseau alone," Day crows, "with a perspicuity more than mortal, has been able to look through the human heart, and discover the secret sources and combinations of the passions. Every page is big with important truth" (qtd. in Edgeworth, *Memoirs* 1:226). Especially striking here is Day's emphasis on interiority and fertility, for within *Émile* human emotion and the fecund natural world are inextricably intertwined. According to Rousseau, nature is the best fertilizer for quickening the seeds and influencing the growth of human passions, which, rooted in the human heart's arable soil, incline toward rampant profusion. For orderly emotional growth, therefore, children require a sustained natural environment; society, on the other hand, prompts only emotional misrule. In effect, nature plays gardener in the burgeoning beds of children's emotional behaviors, coaxing and directing the verdant growth into appropriate disciplined contours.

In discussing *Émile* I use the botanical trope intentionally, for Rousseau deploys it to illustrate the *moral* implications of rearing children's hearts and minds amid nature's bounty. From the opening pages, plants and humans are analogs in the process of natural, felicitous growth. As Rousseau remarks, "Every thing is perfect, coming from the hands

of the Creator; every thing degenerates in the hands of man. He forces a spot of ground to nourish the productions of a foreign soil; or a tree to bear the fruit by the insition [*sic.*] of another.”⁸ A child born to parents who interfere with the natural order is “a plant or shrub, that shoots up spontaneously in the highway, but is soon trodden down and destroyed by travellers” (Nugent 1:2).⁹ Rescuing the child from the crushing force of social convention is critical if parents are to reap benefits from their efforts at cultivation. Rousseau therefore exhorts parents “to preserve the tender plant from the injurious blast of human opinions!” (Nugent 1:2-3).¹⁰ “Be sure to water the young sprig before it dies,” he continues. “It will one day yield such fruit, as must afford thee infinite delight” (Nugent 1:3).¹¹ “Be sure to water the young sprig before it dies,” he continues. “It will one day yield such fruit, as must afford thee infinite delight” (Nugent 1:3).¹² Nature, of course, supplies the best materials for this intervention. Transplanting the child in a rural environment isolates him from social contamination—what Rousseau calls “the dangers of social commerce” (“les dangers de la société”)—and provides ample space for healthful emotional and intellectual growth (Nugent 1:318; Rousseau 2:182).

Just as crucial as transplantation, however, is appropriate timing, for cultivating the responsible parents’ “moral world” (“du monde moral”) is a process both urgent and delicate: “The most critical time of life, is the space from one’s birth to twelve years of age. This is the time in which vice and error shoot up, while there is no instrument to destroy them; and when the instrument comes, they are so deeply rooted, it is impossible to extirpate them” (Nugent 1:93; Rousseau 1:187; Nugent 1:100).¹³ With words like *moral world* and *vice* (“les vices”), Rousseau introduces a distinctly ethical component to his argument. Vices are the moral weeds, or moral exotics, in the childhood nursery,

against which parents must maintain a sensitive but stringent guard. Intellectually and emotionally, the child from birth is ripe for the introduction of moral depravity. Indeed, Rousseau insists, “The first wrong notion that enters into [the child’s] head is to him the seed of error and vice” (Nugent 1:93).¹⁴ Once introduced to the seat of reason, moral danger immediately spreads to the child’s emotional center. “At every crude lecture you want to drive into their heads,” warns the author, “you plant a vice in the midst of their hearts” (Nugent 1:98).¹⁵ Grafting together the rhetoric of morality and of plant cultivation, Rousseau depicts children as moral innocents imbued with fertile emotional and intellectual faculties capable of germinating and propagating any behavioral varietal. Planting children in a rural area, away from cavalier, exotic species that might otherwise take root in such tender human ground, allows adults to monitor and control the behaviors their children exhibit over time. Should immorality shoot forth its ominous branch (say, in the form of emotional excess), adults can quite literally nip it in the bud.

For all their moral innocence, however, children are not emotional *tabula rasas* in Rousseau’s way of thinking. Rather, at birth the human heart recognizes the pull of an inborn seed: “The source of human passions, the origin and principle of all others, the only one that is born with man, and that never leaves him while he lives, is self-love,” he asserts. “This is an innate passion, anterior to all others, and of which they are all, in one sense, but different modifications.” “Since “the love of the individual is always good, and conformable to order” properly nurturing it renders the heart receptive to other agreeable emotions, and propagates, correspondingly, appropriate moral behavior (Nugent 1:316; Rousseau 2:178).¹⁶ Children’s native stock thus inclines toward goodness but may, through its rudimentary flexibility, bend toward evil when “the seeds

of those vices have been sowed in [children's] tender minds" (Nugent 1:122).¹⁷

Promoting the natural benevolence within self-love, the root upon which all other emotional and moral species are grafted, thus is crucial to the growth of children's characters—for which children are also individually responsible. Given the proper models and environment, children can, at the appropriate age, shoulder the work of crafting their moral constitutions, albeit unknowingly. Rousseau may believe children incapable of feeling their "moral existence" ("être moral") until the age of fifteen (Nugent 1:319; Rousseau 2:183); but the system he proffers for their self-cultivation *up to that point* is itself an intensive and extensive form of moral monitoring in a pedagogical arc meant to end with "congruity and goodness" ("à ce qui est convenable & bon"; Nugent 1:235; Rousseau 2:10).

Specifically, Rousseau promotes hands-on experience in the physical world to strengthen children's intellectual grasp of humanity's relationship to nature and, simultaneously, to reinforce their moral growth. His preferred method in this endeavor involves instilling in children the keen sense of living—"the use of our organs, of our senses, of our faculties, and of every part of ourselves, by which we are rendered sensible of our existence" (Nugent 1:12).¹⁸ Acute cognitive and bodily consciousness, in other words, hallmark the truly *living* being who, unable to exist purely as "natural" or as "civilized" man in the eighteenth-century transatlantic world, chooses instead to stake a claim in determined *action* and informed *choice*. Developing such acute self-knowledge entails both training in physical endurance—the regimen of scant clothing, plain food, and exhausting activity that Locke also advocates—and intellectual capacity. Since "reason" is "the guide of self-love" in children's moral trajectories (Nugent 1:99;

“jusqu’à ce que le guide de l’amour-propre, qui est la raison” 1:200), cognitive stimulation and cultivation accrues particular importance, for which Rousseau proposes the following general subjects: the concept of physical property and labor, arithmetic, geometry, reading, and—most importantly—natural philosophy, in the form of scientific experiments covering geography, astronomy, optics, magnetism, navigation, cosmography, and mechanics (see especially Book III). With experimentation, children seize active agency, which implants “much clearer and surer ideas” (“des notions bien plus claires & bien plus sûres”) in their minds than “those for which [the children] are beholden to instruction” (“que de celles qu’on tient des enseignements d’autrui”; Nugent 1:252; Rousseau 2:46). Such investigation also intimately involves children with nature’s beauty and design as they observe and question natural phenomena and take stock in their relation to the natural world. Indeed, making children “attentive to the phænomena of nature” (“attentif aux phénomènes de la Nature”) by stoking their curiosity and “let[ting them] not learn, but *invent* the sciences” (“qu’il n’apprenne pas la science; qu’il l’invente”) spurs vigorous personal investment in the learning process (Nugent 1: 237; my emphasis; Rousseau 2:13, 14).

Self-directed initiative becomes its own benefit as youngsters learn the joy of discovery while testing and strengthening their reasoning powers. Therefore the very utility of nature’s wonders—and of humanity’s investigations into them—emerges triumphant on the foundations of personal approbation. Further, children also learn to regard their reason as a source of personal authority through which they can counter emotional excess and make responsible decisions. With the leavening of time and experience, children then will ripen into young people secure enough in their intellectual

and moral maturity to extend their self-love to others and thereby to comprehend more fully the moral value of compassion, sympathy, and empathy. That, says Rousseau, is the culmination of the moral order, the touchstone against which young people test the social order and thereafter propagate anew a fresh generation attuned to the natural order.

Émile thus details an educational system deeply concerned with juvenile moral cultivation. Promoting martial conditioning for the body and scientific experimentation for the intellect, Rousseau aims to implant in children the same “coolness and moderation” (“du sang froid & de la modération”)—or, *objectivity*—with which he admonishes parents to model their own behavior (Nugent 1:107; Rousseau 1:216). Reason’s objective moral compass is the individualized instrument with which children are to combat the weeds of vice and reap a fruitful life amid nature’s beneficent bounty.

Day transplanted Rousseau’s lively ideas about moral education into *Sandford and Merton* when he commenced writing it in the early 1780s.¹⁹ Time and an unsuccessful educational experiment à l’*Émile* had considerably weakened his initial exuberant faith in Rousseau’s system, but he nonetheless remained strongly impressed with Rousseau’s vision of natural order brought about by intellectual, physical, emotional, and moral discipline. These were the very attributes, in fact, that Day most appreciated in historical narratives from classical antiquity, a wildly popular and influential interest in the eighteenth-century transatlantic, which Day also incorporated in *Sandford and Merton*. The attraction for Day lay in the ethos of a calm, engaged objectivity supported by steady reasoning and moral surety, the same characteristics supporting two other philosophies Day esteemed: Stoicism and science. Coiled throughout the Stoics’ belief in patient endurance, and throughout eighteenth-century

natural philosophers' faith in persistent experimentation, was a common belief in the strength of human reason, to which scientists added an abiding respect for nature's wonders and for humanity's moral guardianship of the natural world.²⁰ The pleasures of cognition beckoned sweetly to those who would listen, promising deep moral satisfaction in intellectual invention that revealed to earthly eyes the secrets of nature. And Day did listen. A rather sober sort who viewed life seriously and duties gravely, he gravitated toward philosophy and science not as a mechanic or an inventor but as a ruminator engaged in the pursuit of happiness and moral approbation. Throughout his life, and particularly during the creation of *Sandford and Merton*, he tried to live the very principles he admired.

Thomas Day and the Lunar Society

Born 22 June and christened 8 July 1748 at St. George's, London, Thomas Day grew up the only child and heir of Thomas and Jane (Bonham) Day, who managed what biographer George W. Gignilliat calls a "prosperous middle-class" existence in London's east side (Rowland 8, Gignilliat 3). Day senior's considerable assets included a manor in Essex; land in Huntingdon, Bedford, and Foulness; stock in the Portland and Eddystone lighthouses; and jewels and plate. Through his patron, the Duke of Manchester, he held an office at the Port of London, which provided, along with unspecified income, both the dignified title Deputy Collector Outwards of the Customs and an "official residence" at 42 Wellclose Square, close to St. Katherine's Dock (Gignilliat 3; Rowland 8, 7). Thus when Day senior died in 1749, his son then barely a year old, he had acquired enough to leave his family in comfortable circumstances and—remarkably—to bequest gifts upon

over 150 other individuals and parish churches. In addition to the Essex manor, Jane received an annual income of £310 (drawn from a jointure, annuities, and interest), as well as her husband's pictures, plate, and jewels. All other major assets went to baby Day, whose inheritance would be controlled by will trustees until he turned twenty-one, at which time he would become, barring financial catastrophe, a landed gentleman (Gignilliat 4-9; Rowland 8). Life did indeed pass smoothly for the boy, who never experienced pecuniary want. As his close friend Richard Lovell Edgeworth reminded him in 1788, "You had early in life the command of money; and, from your very childhood, you were certain of having a considerable fortune to dispose of, when you should come of age. Your school-fellows were not in the same situation" (*Memoirs* 2:90). Thus from his first awareness Day enjoyed both privileged economic security and its attendant virtues: choice and leisure.

Day's educational career mirrored this relatively protected class status. After Day senior's death Jane and baby Day vacated the Deputy Collector's house and moved to the Stoke Newington section of London, where Day learned to read, question ministers about biblical Scripture, and disbelieve ministers' disingenuous answers (Gignilliat 9-11; Rowland 8-9).²¹ In 1755 Jane married Thomas Phillips, a good enough friend of Day senior to be included as one of the trustees in his will, and moved with her new husband to a house in Barehill, Berkshire. Day, meanwhile, attended and boarded at Stoke Newington Academy, contracted smallpox, recovered at Barehill with his mother, and then began studies at London's prestigious Charterhouse ca.1757-1758 (Gignilliat 11-13). Here he met and befriended future literary wit William Seward and perhaps also future coauthor John Laurens Bicknell²² amid his required forays into Latin and Greek

(Rowland 9-10). In 1764 Day moved on to Oxford University as a gentleman commoner, one of only five of that status within the sixteen-person membership of Corpus Christi College (Gignilliat 28). In this small communal atmosphere Day befriended William Jones, the future judge and Orientalist, and engaged seriously in the pursuit of knowledge under the tutorship of John Russell, eschewing the cavalier ribaldry that preoccupied most of his moneyed fellow Oxfordians at that time (Rowland 10; Gignilliat 29-31; Midgley 61-74). Despite this steady scholarship Day did not earn a degree at Oxford; it was required neither for further study in the professions nor for his personal or social standing (Keir 5-6). He did, however, choose to pursue the law. Admitted to London's Middle Temple on 12 February 1765, Day left Oxford around the spring of 1767 and then probably began keeping terms at the Middle Temple in the fall of 1768. Nearly eleven years later, on 14 May 1779 to be precise, Day was formally admitted to the Bar.²³ Early on in this leisurely legal apprenticeship Day lived with Bicknell in London, but by 1773 he was sharing rooms with William Jones at Lamb's Inn²⁴; after his admittance to Lincoln's Inn on 29 March 1776, Day rented his own chambers at Furnival's Inn on Holborn Road, which he kept until he died in 1789 (*Records of the Honorable Society of Lincoln's Inn* 1:483; Edgell; Pollard ff. 123-24). Despite this steady presence in legal surroundings, Day was not an enthusiastic lawyer and, by biographer Peter Rowland's reckoning, quit his legal practice at some point between 1783 and 1787 (256). According to Day's nephew, Thomas Lowndes, the highly principled Day could no longer "bring himself to take *every brief* that was brought him, and affirm black was white or white black, just as suited the order of the day, or the whim and roguery of those barrister-jackalls, the attornies" (*Tracts, Political and Miscellaneous* 194). Day did enjoy visiting

London a few times a year, so he probably kept his chambers as a ready convenience for those times he came to town. They were also a handy place to help a needy friend. Day generously allowed one wayward companion, Walter Pollard, to lodge there—for free—for nearly two years (Pollard; Gignilliat 209-10; Rowland 196-97). This continuing presence in the legal community suggests a great deal about Day's character. Gifted with a strong work ethic and a firm faith in service, Day took to heart the important personal responsibility of benefiting the public good, a noblesse oblige for which he felt qualified based on his ample fortune, good education, and sufficient leisure. Even though his intellectual endeavors were focused elsewhere, his law chambers signified his commitment to provide legal recourse should the need arise within his ambit. As such they embodied, ironically, his approbation of public service in an age and a profession he despairingly considered rife with corruption.

Day's intellect and strong principles rendered him something of a curmudgeon—Maria Edgeworth labeled him “an eccentric” (*Memoirs* 2:144-45)—but that did not negate his close fellowship with a wide variety of friends and colleagues. His nearest ties occurred among members of the Lunar Society of Birmingham, famous in the eighteenth century as a free-thinking group of manufacturers and natural philosophers, situated in England's Midlands, who were the most important scientific and entrepreneurial force outside London. Founded on a fierce interest in experimentation and invention and composed primarily of Fellows of the Royal Society, the group embraced core members and visiting associates alike. Core members in addition to Day included physician and philosophical tour de force Erasmus Darwin (1731-1802), Scottish physician and naturalist William Small (1734-1775), engineer and educator Richard Lovell Edgeworth,

Soho Works founder Matthew Boulton (1728-1809), Scottish inventor James Watt (1736-1819), Unitarian minister and chemist Joseph Priestley (1733-1804), Scottish chemist James Keir (1735-1820), Quaker arms manufacturer Samuel Galton (1753-1832), physician and botanist William Withering (1741-1799), clockmaker and founder of modern geology John Whitehurst (1713-1788), minister Robert Augustus Johnson (1745-1799), and physician and botanist Jonathan Stokes (1755-1831). These regulars often entertained guests such as master ceramics designer, inventor, and manufacturer Josiah Wedgwood (1730-1795), botanist Sir Joseph Banks (1743-1830), and many others.²⁵ Although a loose consortium of firm friends and kindred spirits, by December 1775 the society eventually met once a month at the light of the full moon (Schofield, *Lunar Society* 141-42)—hence its name and its nickname “Lunatics,” which Galton’s butler coined and the Lunatics themselves embraced.²⁶ They engaged in voluminous correspondence with the leading lights of philosophy and literature across Britain, North America, and Western Europe; and their ideas and inventions transformed the cultural landscape of the western world: Boulton and Watt improved the steam engine and thereby stoked the industrial revolution; Darwin formulated what we now call biological evolution, which his grandson Charles (1809-1882) extended and systematized; Priestley discovered enough important elements, including oxygen, nitrogen, sulfur dioxide, carbon monoxide, and ammonia, to reconstitute chemistry; and Wedgwood both invented the ceramic pyrometer—which regulated kiln temperature and thereby initiated mass production of pottery—and, with partner Thomas Bentley (1731-1780), pioneered clever marketing techniques, still used today, that touted the newly mass-produced queen’s ware

and jasper ware as capstones of taste among the middle and upper classes, a lively cultural perception that crossed the Atlantic and has yet to cease.

Among this circle Day's dearest friends were Edgeworth, Darwin, Small, Keir, Wedgwood, and Boulton, men of diverse tastes and backgrounds who nonetheless reciprocated mutual esteem. Of this group only Wedgwood and Boulton were not college-educated. Indeed, the academy proved a petri dish for germinating some of these friendships. Darwin and Keir met while attending medical school at Edinburgh University (Moilliet 40). Edgeworth and Day, both Corpus Christi College men and members of the Middle Temple, initiated their friendship on the basis of their mutual connection to Oxford tutor John Russell (Edgeworth, *Memoirs* 1:180). Small, professor of philosophy at The College of William and Mary and mentor to a young Thomas Jefferson, became Boulton's physician and close friend through Benjamin Franklin, who provided the Scotsman with a letter of introduction (Small; Ganter; Von Bauer 8-10).²⁷ Just as important a bond, however, grew from a shared civic culture. Lobbying for and obtaining permission to dig the Grand Trunk Canal (Trent and Mersey Canal), which enabled the Midlands to establish trade relations abroad independent of London, sparked a friendship between Darwin and Wedgwood. Boulton, Small, and Galton likewise strengthened their mutual ties as they invested their time in the growth and development of Birmingham's local infrastructure (Money 24-50, 80-97; Wise). Perhaps the most vital factor linking all these men was Darwin's easy charm and magnetic personality; when added to geographical propinquity and strong epistolary habits, it greatly facilitated intermingling in person and on paper. From his house in Lichfield Darwin initiated numerous introductions, linking Keir and Whitehurst to Wedgwood, Wedgwood to Day

and Edgeworth, Edgeworth to Small and Keir, Small and Keir to Watt, ad infinitum, until the various cohorts' continual personal correspondence stimulated both regular Lunar assembly and smaller, personal visits (King-Hele).

All met on the equal ground of Darwin's vast regard, despite differences in class status. Born into the working class, for instance, Wedgwood and Boulton depended on native wit, hard labor, and influential connections to forge successful manufacturing careers. Their reknown, like their fortunes, took time to grow before they were launched into the middle class. Edgeworth and Day, as landed gentlemen, perched on a higher social rung and took advantage of their superior access to leisure and money by pursuing the law—with varying degrees of enthusiasm. Most of the Lunar core, however, had to earn a living; likewise, most chose one of the professions. Keir, for example, the youngest of eighteen children, came from a landed, civic-minded Scottish family forced to sell its estates after the death of Keir's father. With the aid of two prosperous uncles he attended medical school and attained a captaincy in the military during the Seven Years' War before focussing his efforts on chemical and glass works (Moilliet 8, 13-14, 19-20, 23-24). In Darwin's case, his elder brother inherited the family estate; choosing medicine therefore fit well with Darwin's gentle birth and pecuniary needs.

Yet spicing this general Lunar economic necessity was a zeal for learning and self-improvement that cut through class differences. Keir left the military because it did not accord with “his taste for reading and self-cultivation.” Working in industry allowed him the flexibility to rise at four in the morning to read the ancient classics and translate into English his favorite texts from the Greek military historian Polybius—a habit that mirrors his appreciation for the Stoics, which his good friends Day and Small shared as

well (Moilliet 14).²⁸ Wedgwood also pursued individual studies to quench his intellectual interests. Lacking a deep educational background, he primarily taught himself a variety of subjects, including Grecian and Roman art and educational philosophy, from up-to-date publications. On 26 October 1762, for example, he queried his friend Bentley about a recent book creating a buzz among literary and Lunar circles: “If you have seen Rousseau’s *Émile*,” he wrote, “I should be glad to know your thoughts of that piece, and now it is translated, I should be glad by your recommendation to purchase it” (qtd. in Mantoux 382n6).

This shared passion for learning also easily spiked mutual interest in scientific experiments. Experimentation—incorporating intellectual deliberation, mechanical innovation, and resourceful imagination—delighted them all and operated as a catalyzing agent throughout the Lunar circle and its smaller cohorts. Accomplishments normally associated with one or two people were actually the product of Lunar collaboration. Both the steam engine and the horizontal windmill used to grind pigment at Wedgwood’s Etruria manufactory, for example, owe their existence to Lunar financial, mechanical, and creative aid. For the steam engine Day and Darwin lent substantial sums to Boulton at crucial times; indeed, Darwin biographer Desmond King-Hele credits a great deal of Boulton and Watts’s eventual success to Day’s monetary contribution and eventual infinite patience in collecting his loan (114). Darwin, Small, Edgeworth, Boulton, and Watt then circulated ideas, theories, and even apparatus among themselves until the first steam engine was up and running in a colliery in 1776. As for Wedgwood’s windmill: “Wedgwood was in need of the machine, Darwin was the inventor, Whitehurst and Watt

gave Darwin confidence by their expert advice, and Edgeworth did much of the experimental work under Darwin's guidance”(King-Hele 66-67, 119-20, 130, 160).

These Lunar collaborations also spawned emotional Lunar connections. As family members visited one another during and between Lunar meetings, friendships blossomed among and between the first and the second generations. Thomas Day, for instance, became very good friends with and often played host to Erasmus Darwin the younger, as well as to assorted Edgeworths and Wedgewoods. The second and succeeding generations then obligingly introduced intermarriage to the mix. Darwin's son Robert and Wedgwood's daughter Susanna married and produced among their offspring Charles Darwin, who followed his father's example and married his Wedgwood cousin, Emma. Darwin's daughter Violetta wed Samuel Tertius Galton; their daughter Lucy then married James Moilliet, son of Keir's daughter Amelia and her husband John Lewis Moilliet (née Jean-Louis). Thus several interwoven elements, with a little help from serendipity, produced a vital web of connective tissue among the Lunar circle. Strong intellectual and civic interests, aided by geographic access and Darwinian charm, and piqued with avid curiosity and collaborative effort, coalesced into enduring friendships that reshaped personal lives and the emerging world of modern science and industry.

Less well known is Day's membership in a short-lived philosophy club that began, approximately, in 1773. According to David Williams (1738-1816), educational experimenter and anti-Jacobin, Day was one of thirteen exclusive members in a club born after its first four members broached the idea “over a neck of veal and potatoes at the Old Slaughter Coffee House” (16). The initial four—Benjamin Franklin, Thomas Bentley, Isle of Man Lieutenant-Governor Colonel Dawson, and David Williams—extended

membership to Lunar buddies Wedgwood and Whitehurst, as well as prominent botanist Daniel Solander (1733-1782), who had collected botanical specimens with Joseph Banks on Cook's first voyage, and James Stuart (1713-1788), coauthor with Nicholas Revett (1720-1804) of the classic text on Greek architecture, *Antiquities of Athens* (1762). In this august company Day entertained philosophical niceties, not the least of which was Franklin's rueful ruminations concerning the absence of a liturgy for philosophers.²⁹ To fill this void, Williams, with the club's approval, wrote *A Liturgy upon the Universal Principles of Religion and Morality*, which the club helped revise with the eventual goal of using it in regular philosophical church services. The outbreak of the American Revolution, however, interrupted this project. The club disbanded, despite Wedgwood's, Bentley's, and Erasmus Darwin's attempts to publicize the newly opened chapel on London's Margaret Street (King-Hele 131). Thus Williams had to publish the liturgy on his own in 1776. In the club's aftermath, whether Day was one of the few "willing to subscribe [to] or to take pews" in the church instead of creating a "body, as had been first proposed, to conduct the undertaking and to be responsible for the expense" of a chapel, is not clear (Williams 17). Whatever his involvement, his inclusion in such eminent company provides interesting insight into his personality. To his contemporaries Day was *clubbable*. His intellectual probity, resolute moral principles, and staunch self-belief—although much ballyhooed as intolerable by nineteenth- and twentieth-century critics—were valued precisely because they were consistent. Day was always blunt, forthright, and honest, shunning superficial social graces and attitudes in favor of self-truth, no matter how idiosyncratic. Perhaps the most revelatory, and polarizing, incident

in Day's early adulthood concerns this very adherence to self-belief, which Day put into action by shouldering a Lunar experiment in education.

Lunar Education

Education figured significantly among the Lunar circle's myriad interests, providing yet another avenue for innovative ideas and methodologies. Teaching, for instance, occupied several Lunatics. Day's great friend William Small taught mathematics, physics, and metaphysics from 1758 to 1764 at The College of William and Mary, where he introduced the lecture format then popular in European universities; supplemented those lectures with demonstrations of scientific apparatus; and launched new lecture courses in rhetoric, ethics, logic, and *belles lettres* (Ganter 505; Von Baeyer 7-8). Teaching also proved a fertile ground for Joseph Priestley, who developed and refined the basis for two of his most important pedagogical texts—*Rudiments of English Grammar* (1761) and *A Course of Lectures on Oratory and Criticism* (1777)—among his students in Nantwich in the late 1750s and at Warrington Academy between 1761 and 1767. *Rudiments* influenced Lindley Murray's widely used *English Grammar* (1795) and Noah Webster's *A Grammatical Institute of the English Language* (1782-1785), the "most influential nineteenth-century grammar" in the United States; while *A Course of Lectures* instituted the first new theory of rhetorical structure since Cicero. Moreover, while at Warrington (where, incidentally, Wedgwood partner and Lunar associate Thomas Bentley was a trustee), Priestley instigated weekly public exercises for students and "singlehandedly covered two thirds of the trivium, the standard liberal arts curriculum of the schools since the Middle Ages" (Schofield, *Enlightenment* 100, 112, 118). Indeed, curricula were of

vital importance as well to Erasmus Darwin and Josiah Wedgwood, who wanted to arm their children for a future both learned and commercial. Thus both enrolled their oldest sons in John Warltire's course of chemistry lectures, which took place in Newcastle in early 1779, and both hired, respectively, a prisoner of war named Monsieur Potet to tutor their boys in French (Wedgwood, *Selected Letters* 230; Wedgwood and Wedgwood 74, 75). Wedgwood first sent his sons to study with Potet at Darwin's house in Lichfield; the results of the boys' three-week sojourn there between late November and early December of 1779 so impressed Wedgwood that he hired Potet to teach at his home, Etruria, for a year (King-Hele 160-61). There the potter instituted his own "Etruscan" school and planned its curriculum: the boys learned Latin, French, English, writing, accounts, science—the latter, by conducting experiments with their father and by collecting minerals, shells, and fossils—drawing, riding, gardening, and the rudiments of the pottery business. The Wedgwood girls apparently shared in every subject except Latin, accounts, and the family business, and continued their regular studies with their governess, Everina Wollstonecraft, sister to the celebrated Mary Wollstonecraft (Wedgwood, *Letters* 2:542-50, 552-58 and *Selected Letters* 242-49; Meteyard 2:441-47; Wedgwood and Wedgwood 74).

Writing about teaching also proved a viable outlet for Lunar fascination. Darwin penned *A Plan for the Conduct of Female Education in Boarding Schools* (1797) for his two illegitimate daughters, Mary and Susanna, who used it in running a successful girls' boarding school to which Darwin and many of his friends and associates sent their own children. Richard Lovell Edgeworth co-wrote with his daughter, Maria Edgeworth, the highly influential *Practical Education* (1798), which was based on the authors' intimate,

extensive experience raising and observing Daddy Edgeworth's sprawling brood of children, which eventually reached twenty-three in number. On a more casual front, education often reared its gnarled head among personal Lunar correspondence.

Wedgwood consulted Darwin and Bentley about his Etruscan school, once debating with the good doctor the pros and cons of Latin in a curriculum "for any boys intended for trade" (Wedgwood, *Letters* 2:542-43). James Keir and his daughter Amelia discussed how best to raise her son (Moilliet 151-52). Edgeworth kept Day apprised of his oldest boy's quirks and idiosyncrasies in the schoolroom; while Keir praised Day for providing parents the final volume in his *Sandford and Merton* project (Edgeworth, *Memoirs* 1:221, 226-27; Moilliet 102). Across time the Lunar group evinced continuing fascination with the potential for human betterment that education promised if handled properly and well.

Given the preponderance of Lunar pondering, planning, observing, implementing, and writing about education, it is hardly surprising to find *experimenting* joining the list.

Day's particular brand of Lunacy emerged at the approach of his twenty-first birthday in June of 1769. Although he greatly enjoyed intellectual forays into the philosophical unknown with his Lunar friends, his passion for experiment remained unstoked until Margaret Edgeworth, Richard Edgeworth's sister, refused to marry him. At that point his emotional and philosophical frustration with courtship's exquisite rituals reoriented his quest for marital bliss. If he could not find a woman, then he would create one.

His inspiration for this decision may very well have sprung from close friend Edgeworth. When Day had met Edgeworth a few years earlier, the older man had already started his oldest son, Richard, on Rousseau's *Émile* curriculum. Edgeworth was enchanted with a system that he believed was enhanced by "all the power of novelty, as

well as all the charms of eloquence”; and, in his estimation, a life of physical and mental hardihood had rendered his son “bold, free, fearless, generous” (*Memoirs* 1:177, 179). With so much to recommend it, what could go wrong if Day, too, tried to rear someone à l’*Émile*? Thus Day began his own educational experiment in creating a spouse. His approach, although extraordinary, was not as outré as would be that of Mary Shelley’s Victor Frankenstein, another experimenter with creation. What Day and the fictional medical student shared, however, was an attitude toward their subjects imbued, in varying degree, with the intellectual zeal, industrial energy, and entrepreneurial spirit that marked the Lunatics and, increasingly, the times. Yet procuring the proper materials and equipment was vastly easier for Day than for his fictive counterpart. Upon turning twenty-one Day inherited with his estate the necessary finances to underwrite his venture and provide for the girls he expected to raise.

Rather than animating creatures from the dead, Day opted for rearing live children—a far less intimidating proposition—who, ostensibly, would benefit from his kind attention and philanthropy. Most grateful and tractable, perhaps, would be the girls thrown upon the mercy of the London Foundling Hospital and its regional branches.³⁰ Without friends or family connections, the future for these girls was limited to personal service as maids or cooks, while one or two might be lucky and smart enough to snare a place as governess. To become the wife of a landed gentleman would be a stroke of fortune far beyond anyone’s expectations—or so Day seemed to think. Thus the newly minted bachelor set off to troll for wifely material, accompanied by his good friend John Laurens Bicknell (Seward, *Memoirs* 26; Edgeworth, *Memoirs* 1:214). Between the London and Shrewsbury Foundling Hospitals Day and Bicknell picked two girls, aged

approximately eleven and twelve, whom Day was “resolved to breed up,” as “equally as possible, under his own eye; hoping that they might be companions to each other while they were children, and that, before they grew up to be women, he might be able to decide, which of them would be most agreeable to himself for a wife” (Edgeworth, *Memoirs* 1:214).

The exact nature of his transactions with the hospitals, or of his legal relationship to the girls, is murky at best. No “adoption” of either girl by Day has been found among hospital records, which may be as much a consequence of Day’s single status and highly irregular intentions as of lax documentation practices. What is recorded, however, is Day’s name and Barehill address in the London Foundling Hospital’s *Register of Governors*.³¹ Elected to the board of governors on 27 December 1769, the same year he came of age, Day could very well have arranged custody of the girls through his patronage of the charity (Nichols and Wray 382; Lockwood 79). Yet that patronage could not wholly dispel official doubts concerning Day’s unmarried status and impending proximity to two girls approaching womanhood. According to Edgeworth, the Shrewsbury Hospital therefore required that the girl Day chose “should be bound apprentice to some *married* man.” Willy-nilly, Edgeworth says, “I was the person, whom Mr. Day named, and to me Sabrina Sidney was apprenticed On his return to London, he presented to me the little ward, who had been thus bound to me without my knowledge. I had such well merited confidence in Mr. Day, that I felt no repugnance against his being entrusted with the care of a girl, who had been thus put incidentally under my protection” (*Memoirs* 1:214, 214-15). That Edgeworth was rearing son

Richard à l'*Émile* at the time undoubtedly augmented his own strong faith in Day's character with the warm enthusiasm of the philosophically converted.

Curiously, however, Edgeworth is silent on the conditions accompanying the other girl's procurement from the London Foundling Hospital, a gap Anna Seward fills in within her biography of Erasmus Darwin. Seward claims that Day obtained *both* girls from Shrewsbury Hospital after agreeing to a series of written conditions regarding their welfare. Within twelve months he was to decide which girl he would be more inclined to marry. He would then protect his intended's chastity and provide her with a suitable education until he decided whether or not they were to wed. If he chose against marriage, he was responsible for placing the girl with a decent family until she married, at which point he would give her £500 for a wedding portion. As for the other girl, Day was to procure for her a £100 binding apprenticeship with a "respectable tradeswoman"; contingent upon the girl's continuing good behavior, Day would ensure her material welfare and give her £400 when she married or entered into business (Seward, *Memoirs* 26-27).

In either case Day was not a legal "father" but rather a guardian or warden bound by his word to guard against illicit or licentious behavior toward the girls. Nonetheless Day did exercise a father's prerogative by renaming both children, whose original names continue to be a mystery.³² Sabrina's name, Edgeworth informs us, comes "from the river Severn, and Sidney from [Day's] favorite, Algernon Sidney" (1622-1683), a descendent of Sir Philip Sidney and an early Whig politician who upheld the right of revolution and was executed for treason in connection with the 1683 Rye House Plot to remove King Charles II and his line from the throne (*Memoirs* 1:214-15). While this

surname bears the authorial stamp of Day's political convictions, his choice of "Sabrina" is a much more thoughtful nod toward the girl's known origins. The Severn is Great Britain's longest river, beginning in central Wales and running into the Atlantic Ocean via the Bristol Channel; along the way, it curves around the town of Shrewsbury, where Day found Sabrina in the foundling hospital. "Sabrina" thus preserves with modesty and dignity the girl's unique identity, while "Sidney" reinscribes her lineage with both literary and cultural cachet and the inevitable patriarchal residue of Day's authority and beliefs.

From this information alone astute readers could deduce which girl would become Day's intended, for the naming of the remaining child is sparsely detailed. Without ado Edgeworth says that Day "went to the Foundling Hospital, in London, and chose another girl, to whom he gave the name of Lucretia" (*Memoirs* 1:215); whether she retained an original surname or Day gave her a new one remains unrecorded, as does the reason for Day's choice of "Lucretia." Given Day's penchant for classical authors and the Lunar Society, however, it is quite likely that he named her for Lucretius, the Latin philosopher best known for his long poem, *De Rerum Naturae* (*On the Nature of Things*), a versification of Epicurus's whole philosophy, including his atomic theory of matter. More specifically he may have been thinking of Lucretius's influence on Virgil's *Georgics*. In extolling all things rural and agricultural, these poems—hugely popular in the eighteenth century—reflected and reinforced both Day's and Rousseau's belief in the salubrious rehabilitative effects of the countryside, for which "Lucretia" could serve as a subtle mnemonic. Yet it would be a mistake to regard this name purely in terms of Day's self-interest. In choosing "Lucretia," a literary gloss rich with genteel cultural resonance,

Day was attempting to create a connection, albeit subtle, between a lone orphan and the middling to upper classes among whom she would one day have a place, whether as his wife or as a tradeswoman. A credible name, no small thing in eighteenth-century England, would help the child navigate more advantageously the swirling striations of a class-conscious society whatever eventuated in her future. Thus, with children in tow and responsibilities toward them in place, Day could now begin his experiment in earnest.

For the test's first phase, Day transplanted himself and his pupils in Avignon, France, where they remained until the spring of 1770; there he hoped the girls would soak up sobriety and reason from the rich, nutritive country soil. London, unfortunately, had not been very conducive to his plans. Initially Day had "placed his wards in a widow's house, in some court near Chancery Lane, and immediately applied himself to their education." Yet, as Edgeworth goes on to say, "a lodging in England was not a convenient or an agreeable scene." Apparently Day's activities excited an uncomfortable degree of speculation, so he "determined to take his pupils out of England, that he might avoid the inquiries and curiosity of his acquaintance" (*Memoirs* 1:215). The folks in Avignon were no less talkative; but Edgeworth assures us that Day's "simplicity of conduct, strict morality, uncommon generosity, and excellent understanding, soon removed" any unsavory impressions—at least, from the people who *mattered*. Ergo both Day and the girls thereafter "were treated with kindness and civility by the *principal* people in Avignon" (*Memoirs* 1:216; my emphasis).

When not dodging the gossip of the local *non-principals*, Day turned his attention to Sabrina and Lucretia, who filled their days learning—"by slow degrees," à la

Rousseau—to read and write and resist luxury. Edgeworth doesn't provide Day's specific methodology for the first two subjects in this jolly trio, but he does outline Day's basic *modus operandi* for the third: "By continually talking to [the girls], by reasoning, which appeared to me above their comprehension, and by ridicule, the taste for which might afterwards be turned against himself, he endeavoured to imbue them with a deep hatred for dress, and luxury, and fine people, and fashion, and titles" (*Memoirs* 1:217). This curriculum continued for eight months, during which time Sabrina and Lucretia behaved themselves admirably and fulfilled Day's every expectation—that is, if we are to believe Day's version of events. In a letter to Edgeworth, one of only two known to be extant from this time, the proud teacher shares his good fortune with his friend:

You inquire after my pupils: I am not disappointed in any one respect. I am more attached to, and more convinced of the truths of my principles than ever. I am very sure the company of these children has preserved me from a great many melancholy hours. I have made them, in respect to temper, two such girls, as, I may perhaps say without vanity, you have never seen at the same age. They have never given me a moment's trouble throughout the voyage are always contented, and think nothing so agreeable as waiting upon me (no moderate convenience for a lazy man).

Lest Edgeworth doubt the veracity of this claim, Day hastens to add an "original letter from Miss Sabrina Sidney, word for word dictated by herself," to secure his conviction:

Dear Mr. Edgeworth, I am glad to hear you are well, and your little boy—I love Mr. Day dearly, and Lucretia—I am learning to write—I do not like France so well as England—the people are very brown, they dress very oddly—the climate is very good here. I hope I shall have more sense *against* I come to England—I know how to make a circle and an *equilateral* triangle—I know the cause of night and day, winter and summer. I love Mr. Day best in the world, Mr. Bicknell next, and you next. (Qtd. in Edgeworth, *Memoirs* 1:225)

This letter, the only known document recording either girl's childhood perspective about her tutelage, reveals much more than Edgeworth relates about the children's curriculum and inner thoughts. In addition to basic reading and writing, the girls were learning geometry and cosmography, erudite subjects atypical in the curricula of upper-class English girls at this point in the eighteenth century (Gardiner 426-38, 453). They were very much in keeping, however, with Rousseau's pedagogy, Day's Lunar interests, and an increasing fascination with science among eighteenth-century Britain's upper classes.³³

Day's future wife would undoubtedly find married life much more agreeable if she had a rudimentary understanding of subjects in which Day and his friends took such pleasure. But what did young Sabrina think about these lessons? Looking back at Day's letter may suggest an answer.

The children's studies may well have served as a hedge against the intellectual vacuum that Day perceived among the French aristocracy. "Nothing can be more ignorant," he complains to Edgeworth, "than those of the French Nobility whom I have seen; so far from finding any taste for any kind of science among them, I really have not heard enough in any company in France to persuade me, that any one person who composed it could even read" (qtd. in Edgeworth, *Memoirs* 1:223). Day commonly voiced his disappointments with societies many perfidies; coupled with his obvious eagerness for the girls' educational advancement, this exacting attitude probably caused Sabrina and Lucretia more than a little concern. Consider their situation. Physically and culturally isolated in a strange country while gradually familiarizing themselves with the idiosyncrasies of a kind and eccentric protector, the girls were utterly dependent on Day for material, intellectual, and emotional sustenance, as well as for any form of communication outside themselves. Day, according to Edgeworth, "took no pains to remove" the girls' "total ignorance of the French language" and (if Anna Seward is correct) employed no English-speaking servants in Avignon, all in an effort to confound corruption's encroachment upon the children (*Memoirs* 1:216; Seward, *Memoirs* 27). Under these conditions Sabrina's and Lucretia's dependence on Day would intensify to no small degree, increasing their eagerness to preserve his continuing benevolence—not to mention access to the outside world and an eventual return to England—by learning their lessons and behaving as well as possible. Sabrina's letter very subtly expresses the tension that such continual effort must have produced. She may love Day "very dearly," but her desire to "have more sense" belies the pressure she feels to meet Day's standards and ensure his regard. Indeed, she cannot proudly reel off her academic

accomplishments until she has informed Edgeworth, the second of her beloved “masters,” that she takes her studies very seriously—despite her subversive need to comment on the state of Avignon country fashion. Given these underlying currents of strain, Day’s “philosophic romance” with education would not last forever (Edgeworth, *Memoirs* 1:218).

With the passage of time came the dissolution of Day’s rural idyll. According to Anna Seward, who is the sole source concerning the negative aspects of Day and company’s French sojourn, Sabrina and Lucretia’s impeccable behavior gave way to fits of temper and petty demands, which increased astronomically after the girls contracted smallpox. Thoroughly alarmed at this unwonted state of affairs, Day nursed the children back to health and returned to England in the spring of 1770 determined to cut short his exposure to the squally side of childhood (*Memoirs* 27-28). Lucretia, he decided, was not satisfactory wifely material. “Invincibly stupid,” says Edgeworth, “or at the best not disposed to follow [Day’s] regimen,” the girl was better off outside her guardian’s immediate ambit (*Memoirs* 1:217). Lucretia thus was apprenticed to a “chamber milliner,” who successfully invoked the girl’s equanimity and continued meritorious behavior, for which Lucretia received the promised £400 upon her marriage to “a respectable linen-draper in London” (Seward, *Memoirs* 27-28; Edgeworth, *Memoirs* 1:217-18). For Sabrina, however, the “adventure in education,” as Day biographer Gignilliat put it, was only just beginning.³⁴ She boarded temporarily with John Bicknell’s mother in an unspecified “country village” while Day secured appropriate housing (Seward, *Memoirs* 28). He settled upon a house in Stowe Hill, all of ten minutes’ walk from Erasmus Darwin’s front door in Lichfield, ensconced the now

thirteen-year-old Sabrina in their new home, and recommenced her academic agenda (King-Hele 98).

Sabrina's life with Day must have been more than a little peculiar. Yet in the Lichfield area, at least, Day's friends and acquaintances treated the growing girl with kindness and respect, a rather remarkable and generous phenomenon considering the circumstances. As Edgeworth so bluntly phrases it, Day was "breeding up a young girl in his house, without any female to take care of her." Surprisingly, however, the situation "created no scandal, and appeared quite natural and free from impropriety" (*Memoirs* 1:239)—or so said the *principals* on the British side of the English Channel. When not visiting Anna Seward or other good friends in the neighborhood, Sabrina dealt with Day's educational idiosyncrasies. Stoicism appears to have been Day's guiding light, along with strict adherence to certain Rousseauian principles. For example, Day copied Rousseau's advice in *Émile* to enure a child to pain and to sudden noises, such as those of a gun (1:99-100; Nugent 1:51-52). Thus he shot a pistol, loaded with blanks, at Sabrina's skirts and dribbled melted sealing wax on her arms, all of which she was supposed to endure with no demur. Seward writes that Sabrina failed these tests miserably, which led to keen displeasure on Day's part, a contention that two other sources have controverted.³⁵ Sabrina reportedly also had difficulty keeping secrets—which Day deliberately told her to strengthen her reserve—wasn't fond of study, much less science, and continued to delight in pretty clothes (Seward, *Memoirs* 28-29). The Reverend Richard George Robinson adds to this list yet another shortcoming: "Mr. Day told me he could not conquer her dread of a horse; and that no persuasion or bribe could prevail upon her to stroke its neck, though it was held by the bridle" (qtd. in Hopkins 148). After

submitting Sabrina to this Stoic barrage for about a year, Day finally admitted that his experiment was not the joyous success he had anticipated and promptly enrolled the girl in boarding school in Sutton Coldfield, a village relatively near Lichfield in Warwickshire (Seward, *Memoirs* 30; Edgeworth, *Memoirs* 1:245). Never again did Day try to create a wife, even though his tangles with the opposite sex remained agonizingly fruitless until he met Esther Milnes, whom he married in August of 1778 (Rowland 120).³⁶ Sabrina, on the other hand, eventually married Day's good friend Bicknell, whose keen eye, Seward claims, first spied her that fateful day at the Shrewsbury Foundling Hospital (Seward, *Memoirs* 26).

This abortive educational adventure tends to evince unmitigated obloquy among scholars, who conjure from the spicy details a man plagued with ethical myopia, intellectual delinquency, and sexual depravity. Day's steadfast belief in the integrity and sagacity of his principles, which prompted him to embark on this experiment, remain unacknowledged and unforgiven.³⁷ What critics are missing here, I believe, is sufficient understanding of Day's motives and intentions—vexed words in any literary or historical examination, but, nonetheless, particularly valid here. At the beginning of his experiment Day was a twenty-one-year-old idealist who had never suffered for lack of money or class standing. He had come of age at a time when revolutionary breezes were sweeping over the Western Hemisphere, readjusting attitudes toward political polity and human potentiality, and promising brave new worlds to develop and populate. Shackles might harness slaves, but they couldn't confound the limits of *possibility*, which Rousseau had laid out so enticingly in *Émile*. Day craved a palpable taste of that very possibility, not a twisted, mean-spirited satisfaction in hurting or humiliating children—or himself. (And

Sabrina and Lucretia, arguably, led lives superior in material and emotional comfort to those they could have expected if they had continued at the foundling hospitals.) His disappointment with the experiment's results could have made him extremely bitter about children and about the human potential for improvement; yet, he retained a strong belief in the future good, which he infused within *Sandford and Merton*, and which experimentation and investigation pointed toward in the years to come. Unfortunately, however, the aspersion cast over Day because of his experiment too often lingers as well on critical reception of his text.

Sandford and Merton

Indeed, despite its richness, *Sandford and Merton* has wilted under the eyes of twentieth-century reviewers generally unable or unwilling to understand Day or the text's complex eighteenth-century contexts. Even F. J. Harvey Darton, the renowned children's literature historian who originally professes enthusiasm for the book in 1932, can't quite discern what makes the text work. "It is a great work," he insists, "in its queer little way" (145). The ambivalence in that tag line permeates successive scholarship, which tends to fall into one of two categories: conventional or caustic.

Among the first group, Sylvia W. Patterson merely lists various (but not exhaustive) parallels between Day's text and *Émile* (64-73), which Florence V. Barry had first commented upon nearly fifty years earlier (112). Similarly, Samuel F. Pickering limits his discussions to detailed plot outlines; while Mary V. Jackson foregoes deep analysis for superficial and often erroneous blurbs.³⁸ The caustic camp, however, provides no profound insight. Barry, like Jackson, sees no further than the "Good Boy-

Bad Boy” contrast so familiar in didactic children’s literature (105-13), a genre May Hill Arbuthnot finds utterly revolting and therefore useless. Branding *Sandford and Merton* a “classic example” of “painfully didactic stories,” she likens Tommy and Harry to tortured victims of a maniacal mind (42, 41). Day is one of those “ardent authors” who “stalked their children, allowing them never a moment for play or fancy but instructing and improving on every page” (42; my emphasis). On a similar note, critic Percy Muir deems *Sandford and Merton* “a feast of nausea” (91). More recently, however, critics have eschewed vitriol for a more reasonable approach. Jacqueline Rose considerably complicates earlier, simplistic analyses by framing the text’s class issues in terms of Great Britain’s changing economic and political profile in the late eighteenth century. Taking Rose’s lead, Mona Scheuermann reiterates the importance of the burgeoning industrial revolution to the development of children’s literature after 1750, a connection she finds essential to Day’s “middle-class merchant morality” in *Sandford and Merton* (238). This attention to social class in the 1980s gave way in the 1990s to treatments of gender and sexuality. G. J. Barker-Benfield traces Day’s representation of masculinity to contemporary discourses on classical republicanism, the Scottish school, and sentimentality. Plumbing the emerging field of queer studies, Anne Chandler interprets the text as a how-to manual for rearing homosexual males.³⁹ The increased sophistication of these literary and historical analyses is both gratifying and long overdue.

Sophistication, nevertheless, can neither confound nor ameliorate the many problems undercutting this scholarship, particularly within Scheuermann’s and Chandler’s investigations. Scheuermann’s observations on class, for instance, are derived entirely and solely from Isaac Kramnick’s article on juvenile literature during the

industrial revolution. Moreover, her contribution to the ongoing dialogue, a comparison of *noblesse oblige* in *The Fool of Quality* and *Sandford and Merton*, is wholly uninformed by the history and methodologies of transatlantic children's literature. Scheuermann's ignorance here, unfortunately, is all too common. Unfamiliarity with juvenile literature is formidable throughout this scholarship, leading to embarrassing errors in fact or judgment. For example, *Sandford and Merton*'s episodic structure, long a commonplace in children's literature, stymies Chandler and Scheuermann, who, to cover their confusion, blithely misidentify it. Scheuermann calls the text a "novel" (6), while Chandler reduces it, nonsensically, to "narrative refrains . . . so fragmented and rhythmical as to vaporize into pure fantasy" ("Defying" 202). Most egregious, perhaps, are the rudimentary materials with which Chandler builds her argument. Using an abridged nineteenth-century edition of *Sandford and Merton*, she takes ninety-eight percent of her evidence from *one* story, which appears in the third volume of the first edition. Given this bizarre bibliographical choice and disproportionate data, it's little wonder Chandler concludes that Day is "antidevelopmental" and "eschew[s] cumulative learning in favor of experiential intensity" (203, 206). Academics may be placing *Sandford and Merton* within more complex intellectual frameworks, but the gloss from this slicker packaging cannot deflect the caustic tests of textual familiarity or intellectual interrogation.

That said, I don't wish to give the impression that previous scholarship is utterly useless in forging bold new directions in the study of this text. Rose's and Kramnick's investigations invite a deeper, closer look at the Lunar Society of Birmingham, the children's books its members wrote, and the textual representations of children, morality,

and labor that those children's books sustained. Barker-Benfield, in tandem with Robert Alan Cooper and Scheuermann, underscores the importance of Day's paternalistic benevolence, especially in *Sandford and Merton's* class formulations. Of particular import to this study, however, are the provocative nature of a few, scattered observations. Chandler's mocking characterization of *Sandford and Merton* (quoted above) suggests, for example, that the narrative's anecdotal structure triggers a mental connection with storytelling elements that stretch deeply into the roots of folklore. As with didactic children's fiction, many folk and fairy tales follow a compressed, episodic format, heavily seeded with key components or motifs, to convey pedagogic messages with ease and style (Lüthi 21-81; Propp 19-117). The unheeded injunction and opposition of good and bad same-sex characters, for instance, appear countless times across these genres. Opposing characters' behaviors indicate which personal traits are suitable for emulation; similarly, an ignored prohibition illustrates misbehavior's consequences and promotes future appropriate action. *Sandford and Merton* incorporates both elements. In addition, Scheuermann makes a casual remark that points to yet another folkloric influence. Twice she mentions that Tommy undergoes transformation away from his family home; although not strictly true, this extra-domestic phenomenon nonetheless correlates with the folk- and fairy-tale motif of the dead or absent mother (Warner 2-7). While Day is following Rousseau's contention that children require education in isolation from their doting mothers (1:26-42ff.; Nugent 1:14-22ff.), in severely limiting the maternal role he also brings into play the familiar absent-mother trope, which stands in stark contrast to the mother's increasing moral and emotional importance within the historical late-eighteenth and nineteenth-century Anglo and Anglo-American upper-class family.⁴⁰

Chandler appears unfamiliar with these particular contexts, but she still reacts strongly to the mothers' absence. Struck by an overwhelmingly male atmosphere, she posits that Day "sabotage[s]" his "attempts to pass as a heterosexual man" by formulating a "domestic Eden" in which boys learn to be homosexuals at the hands of an eager tutor (203, 201). I am in no way convinced by her rudimentary biographical or literary arguments, but do share her sense that Harry and Tommy grow and learn within an Edenic milieu that itself deserves examination, especially for the elements of fantasy it connotes. Indeed, this overlap of the "didactic" and the "fantastic" plays out within the boys' environment and educational curriculum, where imagination and creativity blossom through a quickening mixture of science and reason.

* * * * *

The seeds of different qualities frequently lie concealed in the character, and only wait for an opportunity of exerting themselves; and it is the great business of education to apply such motives to imagination, as may stimulate it to laudable exertions.

Sandford and Merton 3:22

As the narrative opens, Rousseau's influence on *Sandford and Merton* (SM) is immediately apparent in Day's discursive choices. Images from plant cultivation, embedded within the introduction of young Tommy and Harry, display the boys' respective dispositions and hint at the choices needed for moral improvement. Day first

situates the boys in distinctly botanical contexts to convey the relative moral merits of their early learning environments; more precisely, he casts the boys as figurative plants whose state of health stems directly from the reciprocal relationship each family shares with the land.

Reared a frugal farmer's son in rural western England, six-year-old Harry Sandford is a spirited, vigorous native who develops naturally, like Émile, in isolation from corrupting influences. Raised simply he prefers simplicity: a regular discipline of coarse food, plain clothes, bare feet, and hard work, the Spartan regime both Locke and Rousseau endorse. Whether helping his father till the land or rambling over the hills at leisure, Harry enjoys a close physical proximity and clean emotional attachment to the land, which here functions as a synecdoche for nature. Daily he haunts fields, pastures, and plowed farmland with the horses, sheep, pigs, birds, and insects populating the country landscape. These deep roots in the soil appear to nourish his body, for physically he is "active, strong, hardy, and fresh-coloured" (1:14), with an "honest" and "good-natured" countenance that bespeaks his moral character. Indeed, "every body" appears to "love him" (1:14-15). His overwhelming natural wellbeing also reflects the pervasive pastoral air of Day's text. Patently uninterested in the mundane materiality of England's frequently inclement weather, Day romances rural land, portraying it as the visionary, sun-lit garden John of Gaunt reflects upon in *Richard II*. Fertile, fruitful, temperate, it obtains "this other Eden, demi-paradise," by virtue of its agricultural emphasis, the first and most important trade in Rousseau's reckoning (Rousseau 2:92; Nugent 1:274). Farming creates "this blessed plot, this earth, this realm, this England" (Shakespeare II.i.42, 50), which in turn sustains staunch native stock. A little green sprout in arable

England, Harry springs from the same rich glebe that would later produce the robust and equally fictitious Tom Brown. Harry's blooming health, a product of his family's abiding respect for the land and the English countryside's very salubrity, marks him as a moral exemplar.

In contrast six-year-old Tommy Merton is an exotic hothouse flower, reared in Jamaica on his father's vast sugar plantation amid an artificial atmosphere of luxury and decadence. Notorious in the eighteenth century for its planters' Bacchanalian dissipation, Jamaica was also Britain's premiere sugar producer. Boasting annual sugar revenues topping £1.5 million around 1775, "the island was far and away Britain's most valuable colony in the Americas." At that time over 200,000 slaves on 775 plantations fueled both England's economy and Jamaican landowners' extravagant consumerism (Walvin, *Black Ivory* 72-74 and *Fruits of Empire* 124). In such a climate the Merton family's ties to the soil are purely venal, signaling, ironically, a corrupt connection between nature and humanity. Mr. Merton owns the estate, but his slaves "cultivate[. . .] sugar and other valuable things for *his* advantage" (*SM* 1:11; my emphasis); his own physical and emotional investment in the land is limited to profits and property rights. Content to view plantation labor as spectator sport, Mr. Merton speculates on material gain and human pain with no respect for the land or other forms of legal "property." Correspondingly he sinks money into slaves, fine clothes, and rich furnishings, valuing conspicuous, opulent display over immaterial virtue. The glittering environment of the Merton estate, in fact, appears to be a microcosm of a thoroughly debased plantation economy; the planters' shallow values and passionate temperaments flourish year-round *because of* the heat of an artificial environment—a figurative hothouse winking in the strong Jamaican sun.

Not surprisingly, the Mertons replicate in their childrearing these same, unnatural conditions. Tommy experiences the exquisite care necessary to cultivate a fragile, exotic flower. His parents, “over solicitous to remove from him every painful and disagreeable impression,” root him indoors to keep him from wilting (1:30). “Instead of playing about, and jumping, and running like other children, he [is] taught to sit still for fear of spoiling his cloaths, and to stay in the house for fear of injuring his complection” (1:14). His body, “delicately shaped,” is “always” swathed “in silk or laced cloaths” to buffer his sensitive skin from contact with less agreeable surfaces (1:15, 12). Immured within the house Tommy, consequently, finds the outdoors—nature!—intolerable: “the least wind or rain g[ives] him a cold, and the least sun [is] sure throw him into a fever”; he tends to be “perpetually ill” (1:14). Therefore, to minimize damage to him, a ubiquitous slave retinue labors to sustain outdoors a greenhouse environment similar to that maintained inside the Merton home. Umbrellas guard Tommy from the vagaries of the elements; strong arms carry him when he is too tired to walk; “men’s shoulders” tote him in “a fine gilded carriage” on neighborhood visits (1:12). Under such unnatural conditions Tommy sustains little physical contact with the ground, which precludes him from literally and symbolically acquiring his own “feel” for it, or, moral moorings to it. He thus learns to view the land and its laborers purely in mercenary terms. Those who work the land and raise its produce are beneath him intellectually, physically, socially, racially, despite the fact that their labor carries *him* and the entire society upon which he bases his feelings of superiority. The slave-powered gilded carriage on which Tommy depends neatly encapsulates this material truth. Nonetheless he believes, perversely, that he is mentally and physically *above* the land and all who work it. Lacking a literal and moral

groundedness necessarily renders Tommy a trope-ical, tropical air plant, which derives nourishment only from the atmosphere: he is limited to the humid artificiality available within the confines of his parents' domestic decadence.

The boy thus absorbs his family's venal attitudes and choices, which he in turn reciprocates behaviorally. He is "very proud, fretful, and impatient," temperamental defects his mother cultivates assiduously (1:14). She is "so excessively fond of him, that she g[ives] him every thing he crie[s] for, and w[ill] never let him learn to read because he complain[s] it ma[kes] his head ache" (1:12). Born to the stereotypically overindulgent mama whom Rousseau blames for early childhood vice, Tommy develops the glaring, passionate self-interest of the petty tyrant whom Thomas Jefferson warns all moneyed white children will become when raised amid slavery (163). Overall Day casts young Merton as a figurative botanical exotic, a product of his parents' disrespect for the land and the insalubrious atmosphere they create on the back of slavery. His hot temperament, a striking contrast to Harry's calm, cool nature, reifies his constitutional disorder and signals an immediate need for Rousseauian intervention. To stimulate healthful moral growth the boy requires transplantation in a far cooler isle, where, Day intimates, exposure to rational ideals amid nature's changing seasons can introduce beneficial regulation.

Tommy's move to rural England indeed revives the boy's relation to nature and thus points to his possible moral and spiritual resurrection. For the first time, for instance, we see him depending upon himself for physical propulsion. Actually using his legs to support him, Tommy and a maid go "walking in the fields upon a fine summer's morning, diverting themselves with gathering different kinds of wild flowers and running

after butterflies” (1:18). This outdoor activity, rather extraordinary given Tommy's previous incapacitating experiences, exposes the boy to the soil in a setting rendered positively idyllic. Temperate weather, nodding grasses, blooming flowers, and flitting butterflies conjure the immediate impression of a vast garden, which the first volume's frontispiece extends. Blanketed amid lush foliage, Tommy is protected overhead by a billowing canopy of leaves and embraced all around by plump spreading bushes and grasses, just a small portion of England's “blessed plot.” Furthering this Edenic image is the obligatory snake, which, additionally, foreshadows a certain moral crossroad. Just as the serpent slithers into Eden and insinuates its “subtil” perspective into Eve's mind (KJV Gen. 3:1-6), a “large snake, on a sudden, start[s] up from among some long grass, and coil[s] itself round little Tommy's leg” (1:18). Harry, happening by, boldly flings away the snake and in so doing commits a powerfully symbolic act: he removes a source of possible physical injury and of figurative spiritual and moral depravity. Hailed as Tommy's “brave little deliverer” (1:19), Harry embodies a timely savior whose virtuous qualities present liberating possibilities for Tommy's suffering character.

This biblically inspired interpretation fits well with the first volume's epigram, an unacknowledged citation from Mark 10:14: “Suffer the little children to come unto me, and forbid them not.” Completing the scriptural line—“for of such is the kingdom of God”—points up a correlation between the children's innocent behavior in a symbolic prelapsarian garden and the moral and spiritual perfection awaiting all humanity within God's heavenly kingdom. From a more secular perspective, however, the epigram's call for tolerance, addressed in biblical context to the disciples obstructing the children's pathway, can be construed in the *Sandford and Merton* scene as a virtuous Rousseauian

warning to parents and children alike: permit youngsters to learn from their own experiences, as Harry and Tommy must here and throughout the narrative; to understand and benefit from the educational process, they must endure painful trials without overt authoritative interference—such as that which the Mertons impose. Implicit in both biblical and secular interpretations is a belief in children's moral capacities and a respect for children's reasoning abilities. Provided with an appropriately stimulating environment, the “seeds” of morality in children's characters can germinate and flourish once given the opportunity. Day's decision to situate Tommy's introduction to nature in a gardenlike setting illustrates this idea. Roused from his tropical torpor and shocked by a snake, Tommy is exposed for the first time to nature and the figurative qualities it signifies. With his defenses down, the cool open air and lush fecund foliage can act upon and infuse his character with a symbolic dose of moral fertilizer. Thus equipped he can better combat his own tropical tendencies; but he will need to undergo many learning experiences before the moral seeds in his character can take root and ground him sufficiently to develop morally sound citizenship.

Day continues to till the moral possibilities within the garden motif when Tommy and Harry go to live with Mr. Barlow, “a Minister of the Gospel” under whose benign tutelage the boys commence their education (1:32). On their very first day, their first task is to dig in the garden, an activity that Rousseau believes will acclimate the body and mind to physical labor and thereby eventually yield up potent lessons regarding the fruits of labor and personal property. Gardening, in fact, becomes a daily morning ritual in which Barlow and the boys tend to their own plots of earth. Initially Tommy resists this form of work, claiming, “very sulkily, I am a gentleman, and don't chuse to slave like a

ploughboy.”⁴¹ Barlow's explanation of profit—“he who raises the most” from his garden plot “will deserve to fare the best”—does not coincide with the boy's ideas of class- and race-based labor (1:54). Unacquainted with deprivation, Tommy also cannot appreciate the value of fending for himself. Barlow's point, however, bears literal fruit. Only those who worked in their gardens are allowed to snack on a bowl of sweet cherries in the summerhouse (and, later, to eat dinner). Tommy's bitter sobs carry no weight with the minister, who calmly states, “No, sir, as you are too much a gentleman to work, we, who are not so, do not chuse to work for the idle” (1:60). By claiming *choice* the province of Harry and himself, who are white laborers, Barlow inverts the class and racial order with which Tommy is accustomed. Further, speaking politely and rationally to the distraught boy, the minister exudes temperate gentlemanly behavior, thus revealing that *class* can be an element of active will as much as, if not more than, an accident of birth. With a cooler temper, the next morning Tommy asks for a hoe, with which, after a little assistance from Barlow, he “in a very short time” grows “very expert, and work[s] with the greatest pleasure.”

These instantaneous positive results, while highly suspect to twenty-first-century readers, issue directly from Tommy's realization that self-agency is itself self-rewarding, a Rousseauian belief that Day here recapitulates. Thus when Barlow brings out the fruit, Tommy feels “the greatest joy imaginable” because he has proved to himself his own ability to succeed and to profit by that success. After working the soil he is on equal ground with Harry and Barlow and so may rightly “take his share” of the fruit, “which seem[s] to him the most delicious he ha[s] ever tasted, because working in the air ha[s] given him an appetite” (1:61)—and because labor has whetted his appetite for agency.

Like Chares's daughter, Selene, who works in the garden and the vineyard for her education in the story "Sophron and Tigranes" (*SM* 3:26-251), Tommy learns firsthand in a small country garden the physical and emotional virtues of earning and enjoying the fruits of his labor, a moral stimulant that marks a small but important step in his moral progression.

Grubbing in the garden, however felicitous, is only one aspect of the holistic program Tommy embarks upon to activate a virtuous mind, body, and soul. As a subtle offshoot of the gardening theme, Day includes a brief bit of botanizing to foreshadow natural philosophy's vital role in the learning process. Before dinner on Tommy and Harry's first day with Barlow, the minister and Harry take a tour of the countryside. "They accordingly ramble[. . .] out into the fields, where Mr. Barlow ma[kes] Harry take notice of several kinds of plants, and t[ells] him the names and nature of them" (1:57-58). By incorporating so early in the narrative the late-eighteenth-century craze for botanizing, Day plants Barlow in a pedagogical context that underscores the minister's firm understanding of modern educational and scientific method. Using the natural world as a point of inquiry, Barlow opens the boy's eyes to the wonder of discovery and thereby whets his intellectual appetite for knowledge. When Harry spies and asks about "some very pretty purple berries upon a plant that b[ears] a purple flower and g[rows] in the hedges," he unwittingly partakes in a vital element of scientific experimentation—observation. Day's word choice here underscores this point. Harry does not *see* or *notice* the berries: he "observe[s]" them. Barlow's illuminating response—the berries are poisonous fruits of the nightshade—then gives Harry immediate gratification. Intrigued, he voices his desire to continue this satisfying pursuit: "I hope, if you will be so good as

to continue to teach me, I shall very soon know the names and qualities of all the herbs which grow” (1:58). With this small incident Harry learns that knowledge bears its own pleasures while providing practical information about the everyday world. In addition, Day’s choice of the nightshade here carries peculiar resonance. Its purple color is a fetching aesthetic foil to the greenery; the berries’ beauty stands out and captures the child’s attention. Ironically, that alluring purple color also signifies the berries’ potentially fatal affects. The fruit, therefore, is a slippery signifier. To the botanist the color purple is a warning sign; to the uninitiated, an invitation. Of themselves these purple berries convey an important lesson: appearances can often be deceiving, even in an Edenic environment.

That Maria Edgeworth, an avid botanizer, teaches the same moral using the same color in her famous children’s story “The Purple Jar” (1801) is highly suggestive of the impact this episode could have on a contemporary reader. Using Harry here, furthermore, is a clever move, for readers see that he is not perfect, despite critics’ continual disapproving insistence that he is (Arbuthnot 42; Demers and Moyles 129; Muir 93). Like Tommy, he is just a six-year-old boy with limited knowledge. Moreover, Harry’s exposure to the nightshade parallels Tommy’s experience with the snake. Both occur in idyllic outdoor settings that contain potentially lethal elements. Neither boy sustains injury, but each experiences a liberating moment that helps orient him toward a moral education appropriate to his developmental level (of which Locke and Rousseau would approve). Tommy gains access to nature, while Harry, whose relationship to nature is more advanced than Tommy’s, discovers an intellectual path to natural exploration that handily complements the physical component already present in his life.

Thus in this episode Day introduces both the idea and value of science and experimentation to urge along Harry's education and to prefigure the larger role these subjects will play in the development of both boys.

Pursuing scientific subjects, however, especially at elementary levels, requires intellectual, physical, and emotional concentration, a difficult requirement for six-year-old boys; Day therefore gradually introduces Tommy and Harry to these concepts through simple activities, such as daily gardening and reading or listening to stories. Labor, not surprisingly, looms large as a literary vehicle for the acquisition of discipline. In "The Flies and the Ants," for instance, the ants' persistent industry obtains ample stores for the colony. "Busy all the summer," spending their days "working and toiling," the ants lay up enough supplies for winter (1:57, 56). The flies, although seemingly "the happiest creatures in the world" because they are "enjoying the fine weather, and diverting themselves," wind up "scattered up and down dead or dying" (1:56, 57). According to this qualified version of Aesop's fable "The Ant and the Grasshopper," *steady work in the present day* makes the difference because it can actuate a future happiness. Similarly, in "The History of the Two Dogs," Jowler's and Keeper's abilities to survive danger hinge on the amount of labor they perform. Key here, however, is the *kind* of labor that can be performed *at any given time*. When Jowler is a pet, he is sluggish and clumsy and cannot defend his master from a marauding wolf that Keeper, the active sheepdog, readily wards off. With their circumstances reversed, the same principle holds true. Keeper grows lazy and inept, while Jowler develops intrepidity and vigor. Their history proves that "constant exercise"—protecting the sheep, in this case, instead of lying beside the fireplace—"and proper discipline are frequently able to change

contemptible characters into good ones” (1:84). Disciplined, productive labor, in other words, obtains salutary physical and moral effects for both the present and the future good, which are inextricably intertwined.

Yet sustained physical effort works best in conjunction with emotional discipline, another behavioral trait that stories detailing courageous warrior cultures readily convey; here Day molds Stoic ideals and Spartan combativeness into an accessible simulacrum for boys. Harry trots out the stoic Spartans, for instance, when Tommy passionately reacts to the beating that he witnesses Harry endure, unjustly, at the hands of an irate gentleman. Tommy immediately craves “a pistol or a sword” with which to “kill[. . .] that good-for-nothing man” and marvels at Harry’s ability “to be so severely whipped, without crying out” (1:113, 114). Harry, on the other hand, calmly indicates that his beating is “nothing to what the young Spartans used to suffer” and proceeds to illuminate for his friend the Spartan way of life.

Surrounded by a great many enemies, they used to
endeavour to make their little boys very brave and hardy.
And these little boys used to be always running about half
naked in the open air, and wrestling and jumping, and
exercising themselves; and they had very coarse food, and
hard beds to lie upon, and were never pampered and
indulged; and all this made them so strong and hardy and
brave, that the like was never seen.

Moreover,

They all fared alike, and ate together in great rooms, and there they were taught to behave orderly and decently; and when dinner was over, they all went to play together, and if they committed any faults they were very severely whipped; but they never minded it, and scorned to cry out, or make a wry face. (1:114-15).

The warrior ethos behind the boys' intense athletic training encompasses emotional fortitude. Stoicism builds emotional muscle, which requires extraordinary circumstances to break down. Whippings, a regular part of daily life, do not breach the internal strength of the physically and emotionally disciplined boy.

This rigor can apply to eighteenth-century girls as well. Mary Anne Schimmelpenninck (née Galton; 1778-1856), daughter of Lunar Society member Samuel Galton and Lucy Barclay Galton, vividly illustrates how influential those Spartan boys were to her own childhood.

My father and mother constantly desired me to bear pain like a Philosopher or Stoic. I remember my mother telling me of the little Spartan boy, who, having stolen a fox, let it gnaw him to the heart without his betraying pain; and she asked me when I should be able to do the same. One day some cotton which was in my hand having caught fire, my mother bade me bring it slowly to her. She was at the opposite end of a long room; and I was told to walk slowly, lest the flame should catch my dress; and not to mind the

pain, but to be like the boys of Sparta. I did so; but the scar remained on my hand many, many years. (1:5)

Here Mary Anne emulates the Spartan boys at parental request. She makes clear, however, that she also would do so of her own volition. When her family dentist tries to give her comfits after drawing four of her front teeth, she makes this indignant reply: “I drew up, and said, ‘Do you think Regulus, and Epictetus, and Seneca, would take a reward for bearing pain; or the little Spartan boys?’” (1:6-7). Scornful of pain, Mary Anne embraces the Stoic tradition made vital and immediate to her through classical texts so popular in the eighteenth century and through one of her favorite books. “I was very fond of ‘Sandford and Merton,’ she says, “and this book, with my mother’s instructions grounded upon it, formed a decided phase in my tastes and habits of mind” (1:5).

While not purely representative of the polite, moderate behavior exacted from girls in well-to-do English society, Mary Anne’s demeanor does strike a decidedly Lunar note. Amelia Keir Moilliet recalls her parents’ conscientious diligence in teaching her the value of self-control, although she does not specify their methodology (Moilliet, 148-49). Darwin’s and Wedgwood’s letters frequently allude to self-restraint, particularly of the emotional variety. Moreover, both Mary Anne’s father and grandfather wished to promote in the girl a cool mental faculty, integral to their Quaker faith, that embraced denial of physical and emotional appetites. Complementing this self-discipline was the pursuit of natural philosophy. “My father,” Mary Anne states, “wished me to be a philosopher; and liked to instruct me in the rudiments of science.” So well were these lessons planted that Mary claims, “It was my delight to hear my father explain the Linnæan Orders; and to have him show me the teeth and claws of my various pets,

classifying them, from the Primates Jack to the Brutum Sus” (1:6). Not surprisingly, Mary Anne could find in *Sandford and Merton* the same Spartan self-discipline her parents actively inculcated.

Day, in fact, waxes prolifically upon the principles activating warrior cultures. “Sophron and Tigranes,” for example, comprises most of *Sandford and Merton*’s third volume. Like a set of nested boxes, the saga between indefatigable shepherd-warrior Sophron and shepherd-turned-berserker Tigranes contains within it several tales contrasting virtuous and craven warrior societies. Thus readers witness a succession of valiants bred on hard, plain living—the Scythians, the Arabians, the Lebanese—conquer their soft-sided opponents—the Syrians, the Egyptians, the Scythians. Note that the Scythians fall into both categories. Under tautly disciplined leadership in a frugal society, the Scythians reign dauntless and supreme until governance falls to an individual whose material yearnings and unruly passion confound victory—a human equivalent, albeit more complex, to the dogs Jowler and Keeper. Liberty, these stories insist, calls for constant mental and physical vigilance best achieved through agricultural and athletic pursuits amid simple economic conditions. Upon the resulting moral fiber rests a nation. Exposed to such glorious exploits through stirring tales, Tommy and Harry can better imagine and understand the varieties of discipline within their own—though far less rigorous—system of education, which Locke and Rousseau themselves drew from classical antiquity’s example. The boys may then more easily apply disciplined principles to their own lives to propagate both present and future results.

Since romanticized combat sequences far outweigh reading and gardening in potential excitement, Day turns to science to provide the children with an active,

inventive, material counterpart to his philosophical indoctrination. As Harry and Tommy embark on various scientific experiments, they learn to use their imaginations to discover facts about the natural world and, in turn, about their own capacities. To ready the children and the readers for this creative, industrious onslaught, Day turns to recent events in eighteenth-century exploration in the Arctic polar region.

In 1773 British Captain John Constantine Phipps attempted, unsuccessfully, to reach the North Pole from a course situated between Greenland and the Svalbard archipelago, north of Norway. With attention thus turned northward, Pierre Louis LeRoy's account of four castaways on Spitsbergen Island, part of the main island grouping within the Svalbard archipelago, gained new currency; and LeRoy's original German text, published in 1760, found new exposure in French, English, Russian, and Italian translations. Day most likely read C. Heydinger's version, entitled *A Narrative of the Singular Adventures of Four Russian Sailors, Who Were Cast Away on the Desert Island of East-Spitzbergen. Together with Some Observations on the Productions of that Island, &c* (London, 1774). Naming his version "Extracts from a Narrative of the extraordinary Adventures of four Russian Sailors, who were cast away on the desert Island of East Spitzbergen," Day focuses on the imaginative inventions the sailors devised to survive the Arctic conditions (1:137-62). Refortifying a bare wooden hut; constructing bows and arrows from animal parts and the ocean's flotsam and jetsam; turning small bits of iron into needles; tanning, smoking, and sewing animal skins; and smoking meat to use as a bread substitute begin as experiments and, with trial and error, become steadfast practice. The human minds, pushed to their limits, attain splendid success because they believe they must. As the text notes, "It is generally necessity

which quickens our invention, opening by degrees our eyes, and pointing out expedients which otherwise might never have occurred to our thoughts” (1:151). A frugal existence thus serves scientific enterprise as much as it aids agricultural Tommy’s interest in imaginative, purposeful industry. The “Extracts” leave him self-motivated, “desirous of making experiments” (1:165), a vital part of his ongoing education down the road of self-knowledge.

Experiments, in fact, both reinforce and display Tommy’s enhanced sense of rational self-agency. His first experiment, taming a piglet with a piece of bread, fails scientifically but provides the first figurative markings of his progress. Unable to make the piglet understand his high-minded intentions, Tommy pounces on it and thereby creates a barnyard hullabaloo: the piglet knocks him into the mud; and the piglet’s mother drags him across the muddy field into a flock of pecking geese (1:165). At this point the mud-drenched boy, physically unhurt and extremely puzzled, merely gives up. This casual reaction is significant, for it differs vastly from a similar, earlier incident. The last time Tommy picked a fight with a recalcitrant subject—in that case, a poor ragged boy—he wound up “vexed and ashamed” and covered with mud (1:88). Stained liberally and literally, Tommy felt symbolically stigmatized. Without clean white linen and unsoiled clothing, he no longer wore the material signs of his gentlemanly status. In this state, he, too, could be taken for a poor boy, which he once again resembles after his piglet encounter. “His face and hands as black as those of any chimney-sweeper,” Tommy bears identifiable working-class markings but *this* time does not feel demoted (1:168). His composure instead reflects a rational, Spartanlike disassociation from his body and social class. In this instance the mud signifies moral progress, for Tommy

sustains a down-to-earth attitude very much at odds with his previous haughty indignation. His increased familiarity with nature renders the experience more ordinary, as if he had become literally and figuratively better grounded. Like the little Spartan boys, he now entertains some common sense about the soil and the activities in which the soil plays a material part. This attitude adjustment is crucial. To make productive experiments Tommy must sustain a willingness to participate, or “get his hands dirty”; without it he will remain mired, ironically, in barren intellectual and moral ground.

Day next introduces experiments in architecture and engineering to romanticize that manual labor so necessary to the very self-agency experiments induce. Imitating the Russian sailors, Tommy and Harry first build a modest house or hut, using the most easily available materials—clay, wood, and thatch—and then dig a channel from a spring to water some fruit trees that they’ve transplanted near the house. “Every day the work advance[s], which fill[s] Tommy’s heart with so much pleasure, that he th[inks] himself the happiest little boy in the universe” (1:208). Grubbing in the dirt now initiates an immediate gratification close to transcendent fulfillment, or, on a slightly less intense note, Harry’s quiet pleasure on the botanizing ramble. From initial disgust to bemusement to joy, Tommy’s feelings about dirt, land, and nature have matured as the seed of self-agency germinates and flourishes. Moreover these fulsome feelings, so intimately twined about the act of labor, romanticize both the experiment and the experimenter. Engaging with the land through natural philosophy turns Tommy into an Adam creating his bliss in an Edenic environment, a scene anticipatory of Thoreau amid the wonder of Walden.

Enriching the emotional romance of labor in the boys’ subsequent endeavors is a

potent aura of magic surrounding science itself. On a literal level Tommy's and Harry's actions appear mundane, ordinary. When the boys can no longer move a snowball on their own, they turn to sticks to use as levers to roll the snowball along the ground. Wedges come in handy to split large tree roots after six-year-old arms tire of heavy pounding. Using such tools Tommy and Harry can "do more than the strongest man could effect, who d[oes] not know these secrets" (2:114). "Secrets" is an evocative and pivotal word choice here, for it casts the rational, prosaic world of science in a mystical light. Learning elementary scientific principles becomes more than an exercise in reason: it's an initiation into a privileged system of signs and methods that reveals the hidden workings of mysterious physical phenomena. In the eyes of a small boy, science can be nothing but marvelous and revelatory: "All this," Tommy enthuses, "is wonderful indeed; and I need not ask the use of [the mechanical apparatus], because I see it plainly in the experiments I have made to-day" (2:114). Science's magical allure captivates his attention, which experimentation then secures, prompting ready and willing participation and the subsequent discovery of important information both useful and interesting in the everyday world.

The narrative's Edenic atmosphere further enhances science's charm. Ironically, with the opening of the second volume, summer's balmy breezes have turned into winter's icy blasts, which lock the land and chill Tommy's heart: "How dreary and uncomfortable is this season of winter!" wails the boy. "I wish it were always summer" (2:15). Blanketed with ice and snow in a winter of "unusual severity," the land of idyllic, endless summer appears in thrall to seasonal caprice (2:1). But the boys' imaginations

are not captive; rather, they are captivated by science, which transforms the icebound landscape into a winter wonderland through experimentation.

Tommy's and Harry's initial experiment in a string of endeavors, however, at first seems to belie this claim. Out walking on a more temperate day, the boys are caught in a "violent shower of snow and sleet" (2:51). Using their wits to increase their comfort, they search for materials "of a sufficiently combustible nature" with which to light a fire (2:53). The sopping weather defeats their efforts, and the boys find themselves equally lost, cold, wet, and muddy—the antithesis of enamored and fascinated. Yet the very material conditions of their encounter with the elements strongly call to mind and parallel Tommy's two previous experiences with mud. It is the third meeting of males and muck, a charmed number in Western folklore; embedded in the narrative structure this third episode lends a ritualistic aura to the scene and signals a portentous moment.

Into this moment strolls Jacky Smithers, the little ragged boy from Tommy's first mud melee, who is "singing along" despite the "tempestuous night" (2:58, 59). Ushering the boys to his meager home nearby, Jacky serves as a conduit linking the romances of science, labor, and poverty. He is one of several "ragged" children in a very poor family headed by an "honest" father "contented" with his situation (2: 59, 60, 66). Says he, "It is the duty of us poor folks to labour hard, take what we can get, and thank the great and wise God, that our condition is no worse" (2:64). In these surroundings, the narrative suggests, the poor are happiest with the bare necessities of survival earned through constant work. Poverty and labor thus entwine to create a satisfying idyll removed from science's sphere, certifying a class division that renders the heady knowledge of science exclusive and thereby doubly enticing.

The boys' subsequent journey home with Barlow enacts their unconscious grasp of this concept. Just as Jacky's casual saunter and blithe singing signify his romantically carefree existence, so Tommy's and Harry's thoughtful walking exhibits their recognition of and fascination with science's contemplative orbit. Indeed, "as they [are] walking on," Tommy symbolizes his own adherence to science's path by initiating reflective conversation about the stars. "Look[ing] up at the sky, where all the stars glimmered with unusual brightness," Tommy exclaims, "What an innumerable quantity of stars is here! I think I never observed so many before in all my life!" Here quantitative analysis, based on rudimentary scientific observation, spurs the boy to broach more sophisticated, qualitative issues. He notes that the stars "are scattered so confusedly about the sky," that he thinks "it as impossible to number them as the flakes of snow that fell to-day, while we were in the wood" (2:69). Casting stars and snowflakes as analogs, Tommy completes the unconscious cognitive circuit set in motion while he was lost. His temporary experience of privation, rendered inconsequential when compared to Jacky Smithers's lot, increases his respect for and enchantment with science and the world that science's secrets can provide for him. With this change of perspective winter's dreary landscape becomes a scientific wonderland lit by millions of twinkling lights; the walk, a scientific route both literally and figuratively star-spangled. Contemplative reverie itself, a prototype of Emersonian transcendence, remaps the boy's intellectual geography. Aware of and grateful for his access to privilege, Tommy indicates with his analogs his readiness to view nature in scientific terms and to secure his place among the initiated.

The boys' subsequent adventures with astronomy, arithmetic, and optics—the most sophisticated experiments in the narrative—subtly indicate science's visionary role

in guiding Tommy and Harry to the path of self-direction. At a conceptual level all three subjects rely on sign systems concerning spatial or perspectival movement along or among points of reference; translated into workable theoretical or material constructs, such as mathematical equations or star charts, these signs aid the user's course of direction intellectually and epistemologically. In *Sandford and Merton*, they also act figuratively. As Tommy and Harry manipulate constellations and numbers and telescopes, they absorb how to conceptualize appropriate object placement in particular spheres—itself an apt description for the goal of education and socialization. Whether charting stars or penning sums, the boys are symbolically situating themselves in the influential intellectual and epistemological domains created under science's enlightened auspices in the late eighteenth century. Doing so makes Harry and Tommy part of the increasingly modern world, fledgling members in a privileged club devoted to the cultural probity that science and technology offer.

The key to success in this world, moreover, is understanding and practicing proper movement along a specific course, which experimentation provides. Thus once Tommy discovers from Barlow that constellations map the heavens and that humans may orient their direction on land and sea via the pole star, he decides to plot stars on a paper globe to learn the placement of the constellations. Through the course of this on-going project he avidly follows the constellations' movements across the sky, determining that Orion seems “to pass on, in a right line drawn from East to West, and that all the stars he ha[s] become acquainted with move[. . .] every night in the same direction” and “then appear[. . .] the evening after in their former places” (2:125, 149). His observations lead

to a discussion about the earth's rotation and an in-depth lesson in spatial perspective, which culminates, eventually, with a look at the sky through a telescope.

The most striking aspect of this scientific curriculum is the *moral* lesson behind human dependence on proper movement and direction, which Tommy learns in a concrete scientific context in order to regulate his mind appropriately. Internalizing rigorous scientific methods, the narrative suggests, will shape the boy's disciplined self-reliance, a vital moral characteristic in a lax world. Science thus functions as an intellectual and temperamental force, a moral gravity, binding the mind to the proper life course. The firm resolution that time and experience produce can then guard the vital body of knowledge accrued, much like a shield protects a human form.

Appropriately, the narrative indicates that Tommy's desire to learn arithmetic hardens into a metaphorical armor of determination after he hears a story about a gentleman's bad business judgement. "I am determined to learn arithmetic," he declares, "that I may not be imposed upon in this matter" (2:123). "Almost every night" thereafter, "Mr. Barlow, and Harry, and he, amuse themselves with little questions that relate[. . .] to numbers," by which means Tommy soon can "add, subtract, multiply, or divide, almost any given sum, with little trouble and great exactness. But he did not for this forget the employment of observing the heavens" and the "various figures and positions of the constellations" (2:123-24). These concurrent practices reinforce one another, building up protective mental stamina, as well as emotional enthusiasm. "Delighted with" the "new spectacle" of using a telescope, Tommy exclaims that the moon, "viewed in this manner," is "the most glorious sight" he has "ever seen in his life," apparently outdoing "the grandeur and beauty" of Orion that so entranced him earlier in his studies (2:195, 125).

Moreover, so “vastly delighted” is he “with all these wonderful experiments” that he declares “that from this time forward he w[ill] never rest till he ha[s] made himself acquainted with every thing curious in every branch of knowledge” (2:199). Science and nature, romanticized individually and in tandem, prompt a recalcitrant boy to resituate himself intellectually and epistemologically in a sphere of cultural influence designed to recapitulate, through experimentation, the routine discipline necessary to the moral growth of the individual and, eventually, of society.

Yet, as Rousseau admonishes in *Émile* (and, ostensibly, as Day learned in his own life), educational experiments in the short term cannot extirpate long-rooted behaviors; turning Tommy recidivist illustrates this concept and allows Day to spell out the obstacles hindering successful moral navigation within the social sphere. During a long visit at home, Tommy spurns Harry, Barlow, and science for the more glittering orbit of unctuous smiles and conceited foppery. Yet science lurks amid even *le beau monde*, pressed into ironic rhetorical play to showcase the moral vacuum at the heart of luxury. Outdoors, the only “apparatus” to be found is that “of modern vanity” (2:208); the vast buildings and grottoes decorating the wealthy estate are shrines to ostentatious expenditure. Consumption inside the house grows even more conspicuous. Borrowing again from *Émile*, Day describes a lavish dinner at the Merton’s English estate, where the simple act of eating is a spectacle (Rousseau 2:100-103; Nugent 1:278-79). In place of the innocent *Émile* is young Harry, who views with huge surprise the transformation of a plain meal into an “important business” of garrulous guests, bewigged servants, and a staggering “apparatus of dishes.” In this sphere nature has no place, rendering the highly artificial metamorphosis a grotesque burlesque upon scientific wonders. Consequently,

Harry feels revolted, is “almost” made “sick”—the moral antithesis of the joyous Tommy reveling in the thrill of scientific experimentation (2:230).

Emphasizing the habitual depravity such burlesque can induce is Day’s representation of Master Mash, a particularly egregious sort who quickly becomes one of Tommy’s fast friends. “From his infancy” Mash has been “accustomed to no other conversation than about winning and losing money,” a highly material topic rendered perfectly natural by longtime exposure. So of course he believes intrinsically in a perverted relationship between nature and science. In his perspective, for example, horses are no different than mechanical devices, for their sole importance rests in their commercial productivity. Horses are thus “engines for the winning of money,” the “summit of all human ambition” in his artificial world (2:241). Confounding humanity’s and nature’s mutual reciprocity, Mash transforms a creature of nature into a lifeless tool, a parody of scientific innovation. In addition, this living being also becomes an artificial servant meant to feed the coffers of a greedy, hubristic populace—a subtle but palpable allusion to the artificial arguments propping up slavery and the slave trade. Together these interpretations suggest that, with the proper frame of mind, humanity indeed may become a proper moral guardian of nature once it understands and *accepts* that self-agency in scientific endeavor, rather than slavery in dependent commercialism, is the best “tool” with which to forge happy human progress.

This universe, however, revolves around the philosophy of inanity, in which moral credit takes the form of sycophantic laughter. To illustrate this notion Day centers again on Mash, who, with his cohort Compton, confuses empty tomfoolery for useful invention, and social disorder for moral approbation. Taking advantage of Harry’s

inability to dance, the buffoons manipulate him into trying a minuet with Miss Simmons, a scheme that results in humiliation for the stumbling couple and huge enjoyment for the rest of the party. The specious laughter reveals that the only *natural* philosophy at work here is the “sublime *science* of imposing on unwary simplicity.” Plotting against another person, rather than plotting stars, thereby makes manifest the epistemological importance of spatial movement, which, when well executed, assumes the “unusual importance” of “brilliant *invention*” (2:271, 273; my emphasis). The dancers’ lurching path among the hilarious, glittering crowd, a metaphorical perversion of a planet’s steady orbit in the starlit sky, is the sole navigable option in a world that favors the exhibition of social confusion. The regulatory force of moral gravity does not work among *le beau monde*, who, as Day’s mock-heroics point up, eschews the moorings of natural philosophy for a luxurious dependency on artificial stratagem.

To correct Tommy’s wandering course and reestablish his appreciation of solid moral values, Day reorients the boy’s focus on the sustained objectivity and emotional regulation shared by successful warriors and scientists. At first, however, the results are not propitious, for Tommy’s temperament grows increasingly impetuous. “Intimately persuaded of the merit and genius of his [fast] companions” after approximately one month in their company, Tommy believes that their superficial “system” is “much more easy than the old” one that Barlow propounded (2:246, 266, 267). “Instead of their being brought up to produce any thing useful, he f[inds] that the great object of all their knowledge and education [is] only to waste, to consume, to destroy, to dissipate what was produced by others” (2:266). Consequently he may safely neglect “his manners or understanding” and “indulge all his caprices; give way to all his passions; be

humoursome, haughty, unjust, and selfish to the extreme” as long as his hair, buckles, and politeness to the ladies follow *la mode* (2:267). Unleashing restraint, Tommy roughhouses with the gang in a public theatre, and later at the ball is conveniently absent when Mash provokes a fight with Harry (after the disastrous minuet). His behavior only worsens the next day when the group spies a bull baiting about to take place. Harry’s warnings about incipient danger only incite the rich boys’ rage, which in turn prods an angry Tommy to punch Harry in the face. Although Harry literally turns the other cheek to his friend, he willingly engages in yet another fight with Mash, whom he thoroughly thrashes. With this last contest, however, Day initiates a change. Delving into the combatants’ minds, he frames their contrasting motivations in romanticized terms that correspond with the rhetoric sprinkled amid the text’s classic warrior stories. These recurrent rhetorical tags identify specific dispositions—one virtuous, one craven—which clearly intimate a temperamental route to moral viability. Mash, for example, is a “quarrelsome and impertinent boy” who has “often been engaged in quarrels like this” one with Harry. He relies on strength and force, fueled by fury and oiled with “greater habitude of fighting”; but, he possesses an acute Achilles’ heel. He easily loses all sense of emotional and physical discipline. Thus he grows “enraged and disappointed” at resistance, beginning to “lose all command of his temper, and strike at random.” “Actuated by rage and shame” Mash lacks internal wherewithal to withstand prolonged assault (2:293, 294, 295, 296). Moreover, Mash’s hot excess brilliantly parallels Tommy’s own exotic temper at the beginning of the narrative and during this interlude at home. Both boys make the vital mistake of depending too heavily on emotion’s ephemeral force for their guiding principle in combat. Emotion also ruined Tommy’s

first scientific experiments. Allowing bad temper and hasty decisions to cloud his mind, he couldn't sustain the mental objectivity and physical disassociation required to complete his investigations successfully. With a tranquil disposition, however, Tommy could enjoy the fruits of contemplation and industry, a lesson he has yet to take to heart.

Harry, on the other hand, understands the importance of calm reasoning, which his successful scientific experiments prove. In battle as well he shows "the cool intrepidity of a veteran combatant." He "possess[es] a body hardened to support pain and hardship; a greater degree of activity, a cool unyielding courage, which nothing c[an] disturb or daunt" (2:295). His prudence prevails over Mash's physically and emotionally exhausting "impetuosity," making him the clear victor (2:296). This battle between emotional passion and mental fortitude immediately recurs among the animals participating in the bull baiting. Against lone dogs who "rush[. . .] upon him with all the rage of inveterate animosity," the bull displays "the coolness of deliberate courage" and "all the calmness and tranquility of an experienced warrior" (2:299, 300). Only with the onset of three "fierce" dogs does his unruffled demeanor "change[. . .] into rage and desperation," infusing his bellows with "pain and fury," his eyes with anger, and his mouth with "foam and blood" (3:301-302). Even among animals, Day appears to interject, objectivity reigns supreme until uncontrollable instinct takes over. But the author's lessons are not yet complete. The bull's sheer brute strength snaps the rope confining him to the immediate arena, which abruptly changes the terms of battle. Free to rampage, the bull wreaks havoc upon the spectators and nearly gores Tommy before Harry, "with a courage and presence of mind above his years," distracts the bull's attention. Saving Harry, in turn, is a "grateful black" to whom Harry has given his only

sixpence. This “intrepid” man then “suffer[s] himself to be dragged about the field” as he delivers a “discipline” of blows; only when the animal is “almost spent with the fatigue of his own violent agitations” can nearby spectators then diffuse the danger by roping and tying the bull to a tree (2:304, 305).

Key to success in these glorified battles—made clear through repeated example—is a singular *scientific* subjectivity, a combination of cool reasoning, even temper, and emotional restraint. Under this operative influence, warriors can follow the standards of right conduct and thereby gain the victory, just as scientists can when delving into their own investigations. Although the bull cannot escape his natural capacity for violence when provoked, humans *can*, a notion Tommy must heed. Indeed Harry and the black man signify a cool temperament’s very *accessibility* and *possibility*, which neither youth nor race need confound. Luxury, on the other hand, stymies the moral disposition. Mash’s intemperate bullying marks him as a lowly thug, not a superior, disciplined warrior. While stars may find their orbits naturally, human beings require the gravity of the right guiding principle to direct and discipline their moral direction.

Before children can find this direction, however, parents must realize and subdue their own emotional errors; thus Day makes explicit the need for *practiced* scientific and martial subjectivity in a civilized world trying to come to terms with its moral mistakes. As Barlow informs Mr. Merton, “One of the most difficult of human *sciences*” is “to be *armed* against the prejudices of the world, and to distinguish real merit from the splendid vices which pass current in what is called society” (3:13; my emphasis). To the experienced eye, Tommy’s “violence and injustice,” “insolence and ingratitude”—while alarming “boisterous passions”—are not signs of corruption but of the six-year-old boy’s

inherently unstable human nature (3:9, 10). “Do you imagine that half the vices of men arise from real depravity of heart?” asks Barlow. “On the contrary, I am convinced that human nature is infinitely more weak than wicked; and that the greater part of all bad conduct springs rather from *want of firmness* than from any settled propensity to evil” (3:12; my emphasis). Thus *arming* the self with knowledge gleaned through discipline can eventuate in the creation of a temperate, moral mental faculty. Crucial to this undertaking, of course, is a steady exposure to the proper environment. Changing habitual behavior of mind, body, or speech “require[s]” a “long and continual attention” (3:11). Tommy’s downfall at this point is only to be expected given the relatively short duration of his education with Barlow. The tutor’s calm assessment, couched logically and scientifically, greatly soothes the anxious parent, illustrating admirably the immediate positive influence that moral firmness makes possible. As if to underscore this point, Day reaffirms Barlow’s solid, steady philosophy with Rousseauian authority, which also promotes the necessary incitement of a child’s imagination. That the “first *experiments*” with Tommy do “not succeed according to our wishes,” Barlow assures Mr. Merton, does not mean that adults must “rashly abandon [them]selves to despair” (3:11; my emphasis). Rather, attention should be paid to “the prevalence of example” in the surrounding sphere and to Tommy’s real character (3:13). “He has always appeared to me generous and humane,” says Barlow, “and to have a fund of natural goodness amid all the faults which spring up too luxuriantly in his character” (3:23). À la Rousseau, Day returns to the botanical images with which he first illustrated Tommy’s character, comparing the boy’s vices to weeds that have been allowed to grow rampant in his egoistic garden. Uprooting the faults and stimulating new moral growth, as both

Rousseau and Day have shown, will require a heavy course of rousing mental invention.

Indeed, Barlow avers,

The *seeds* of different qualities frequently lie concealed in the character, and only wait for an opportunity of exerting themselves; and it is the great business of *education* to apply such motives to the *imagination*, as may stimulate it to laudable exertions. (3:22; my emphasis)

Tommy's imagination, like his moral constitution, needs practice for it to work.

Moreover, Tommy must make a profoundly personal connection with his education; without a sense of responsibility toward himself and others, he could exist indefinitely on a plane of moral stasis.

Day rises to the challenge with a tale of two friends whose warring temperaments foreshadow the demise of their relationship. Gentle, brave, and true, the sturdy shepherd-warrior Sophron prefers pastoral simplicity and "a temperate and rational mind" to all the world's riches (3:48). Consequently, in contests with his violent-tempered, avaricious friend Tigranes, Sophron's "force and coolness" prevail over the other man's "blind impetuous fury" (3:38-39). So poignantly does Tommy relate to this fantastic comparison that he cannot restrain himself from crying, "It reminds me of poor Harry Sandford; just such another good young man will he be, when he is as old as Sophron; and I, and I, add[s] he sobbing, am just such another, worthless, ungrateful wretch as Tigranes" (3:50). For the first time Tommy takes to heart the moral gravity of his situation, seeing through the force of his imagination the inextricable connection between present choices and future outcomes. To reinforce this conceptual breakthrough, a parade

of storytellers (most within the larger “Sophron and Tigranes” text) fill over three hundred pages with romantic tales emphasizing the emotional profit accruing from the twinned dispositions of the warrior and the scientist. Invariably, those most trumpeted resemble the ancient Spartans or Romans, “with all the train of [their] severe and rugged virtues” (3:275). Arabians, Lebanese, Scottish Highlanders, American Indians—and later, in the black man’s story, Gambians—inure themselves to pain and penury through rigorous bodily exercise, heavy training in hand-to-hand combat, abstemious diets, and fervent love for land, liberty, and enterprise. In contrast the Egyptians, Syrians, and Scythians imbibe the venal “spirit of indolence and pusillanimity,” reveling in the superficial sensuality that renders “every young man” a “critic in the *science* of adjusting the folds of his robe, or of giving a *studied* negligence to his hair” (3:82, 210; my emphasis).

Yet, as Day’s mock-heroics suggest, *real* scientific endeavor amid nature, in addition to classical warrior ethics, creates genuine, lasting, emotional satisfaction. Indeed, Chares declares that the happiest man “passes his time in innocent employments and the observation of nature” (3:199). The simple joys of communing with and learning about nature, moreover, are compounded when that knowledge can be used for social benefit—making scientific endeavor humanity’s best interest. Chares himself is a scientist, investigating plant life, soil substances, and fertilizers, in addition to his regular agricultural chores, to learn how to increase both the food supply and air quality. “Amid these tranquil and innocent employments,” he renders his services “useful to [his] fellow-creatures” and receives “the purest reward which can attend the increase of knowledge”—“the consciousness of performing [his] duty, and humbly imitating that

Being whose goodness is as general and unbounded as his power” (3:204). Scientific endeavor thus inculcates and fortifies a moral perspective, which the fruits of *diverse* experimentation can put to public benefit. Chares’ “innumerable experiments concerning the manner in which bodies act upon each other”—ranging from “submitt[ing]the plants, the stones, the minerals, which surround [him], to the violence of all consuming fires” to “examin[ing]” the “structure, and the different principles which compose them”—conjure “many curious and important discoveries.” His most significant discovery, however, is socially explosive: “an easy and expeditious combination of common materials, the effect of which is equal or superior to the most potent and destructive agents in nature” (3:241-42). Capable of razing everything from city walls to mountains, this substance—gunpowder—is both an awe-inspiring scientific invention and a lethal military weapon. More importantly, it’s an instrument of annihilation. With its formidable power comes the grave responsibility of moral guardianship, an awesome trust requiring intellectual objectivity, emotional steadiness, and moral discipline. Thus when Chares’ culture is threatened with annihilation, he must take care to share his knowledge only with someone sharing his disposition—a cool, considerate man whose ability to keep “eternal and inviolable secrecy” can ensure safe use and certain cultural survival (3:242). Inevitably, Chares shares his secret with Sophron, his temperamental twin, who destroys the foe, Tigranes’ army, and preserves his own virtuous society. As Tommy can see, Tigranes’ mercurial disposition triggers emotional estrangement and, eventually, cultural annihilation.

This rip-roaring conjunction of science, technology, and warfare rocks Tommy’s consciousness and roots in his heart and mind a permanent desire to lead his life

responsibly and virtuously. Divesting himself at story's end of fancy dress, powdered hair, and haughty attitude, the now plainly attired boy sturdily announces to his parents and Barlow that his life will gravitate only toward a moral course represented by science. "From this time," he says, "I shall apply myself to the study of nothing but reason and philosophy; and therefore I have bid adieu to dress and finery for ever" (3:256). He promptly reconciles with Harry and, to seal this emotional bond, returns to his friend a pet lamb, which had inadvertently strayed away from its young master. Like the Grinch, whose "small heart" grows "three sizes" upon realizing that Christmas among the Whos in Whoville centers on spiritual and emotional communion instead of crass materialism (n. pag.), Tommy has experienced a significant transformation in his moral landscape following prolonged exposure to virtuous, rational folk: "His heart [has] expanded in the same proportion that his knowledge [has] improved" (3:295). With a sweetened disposition he can orient his mind in the fruitful direction of moral endeavor and scientific subjectivity, which will bode him well in the emerging world of science and industry. Tommy can rest assured that nature's secrets, in the proper hands, will reap substantial social benefit and cultural preservation, insuring his own moral sinecure—with or without slaves—in an intellectual, commercial future.

Forty years later that future has become the present, which Maria Edgeworth addresses in *Harry and Lucy Concluded* (1825). Science and technology are bigger and better than ever, so to provide her juvenile readership with updated ideas for negotiating this exciting new world and for keeping moral and intellectual progress safely monitored, Edgeworth revises Day's Rousseauian pedagogical model. She replaces Barlow's cicerone with a sibling companion, introduces a girl as the companion's team mate, ages

both children to approximately fourteen years, and moves the sphere of action from a secluded garden plot to a geographical sojourn through England's industrial Midlands. In so doing Edgeworth retains Day's emphasis on general science, particularly subjects concerning spatial or perspectival movement along reference points, as well as the notion that scientists are the nation's new warriors, who in Edgeworth's time are busy conquering new realms for nation and for empire. Yet she also makes clear that science in and of itself cannot play a visionary role for self or for England if scientists lack imagination and fail to figure into their calculations the importance of the Rousseauian social contract.

NOTES FOR CHAPTER I

¹ The epigram, quoted from Edgeworth's *Memoirs*, 1:226, is part of a lengthy letter that Day wrote to Edgeworth sometime during the late autumn of 1769.

² *The Dying Negro* (1773) appeared again in 1774 and 1775 in successively enlarged and corrected editions. The 1775 version is the last edition that Day and Bicknell collaborated on before Bicknell's untimely death, so it stands as the final text, which I quote from in this chapter. The 1787 and 1793 editions, and any subsequent issues thereof, merely reflect publishers' typographical and punctuation alterations or errors. In 1798 Johann Jacob Carl Timaeus included Georg Friedrich Noeldeke's German translation of Stockdale's 1793 edition in his biography *T. Day Esqr; Das leben eines der edelsten männer unsers jahrhunderts*.

The Dying Negro so inspired Bicknell's son, John Laurens Bicknell, Jr., that he published his own sequel to it in 1820. Entitled "The Negro to His Wife," the verse imagines what the Negro would have said to his spouse had the two been reunited and allowed to return home "on the moment of [the enslaved man's] departure" for the Indies (Bicknell, Jr., 277).

³ Gignilliat (125), Sypher (180), and Rowland (57, 79) are just three of the authors perpetuating the misinformation that Day's "Dedication" to Rousseau first appears in the third (1775) edition of *The Dying Negro*. This bizarre notion has been circulating ever since the Day entries in Kippis and the *Dictionary of National Biography* (5:690) were published. Contrary to popular opinion, the "Dedication" first appears in the second edition (1774); the version in the third edition (1775) is both enlarged and revised, and marks the continuing refinement of Day's beliefs about the American colonies and slavery.

⁴ For questions of citizenship, see Pocock 401-61 and Kramnick, *Bolingbroke and His Circle*.

⁵ Between 1772 and 1778 Day held several shares in a Birmingham canal, called the Birmingham Navigation, which friends and fellow Lunar Society associates Matthew Boulton, William Small, and Samuel Galton strongly supported. He owned a few shares outright but received most as security for loans he made to Boulton and Small, and to Small's medical associate Joseph Barker. Rowland credits Day's timely loan to Boulton with "helping to keep Matthew Boulton's Soho works afloat at a crucial point in its existence. The steam engine had thereby been enabled to make an earlier appearance in England's history than might otherwise have been the case and to this extent Day had

made a modest contribution to the acceleration of Britain's Industrial Revolution" (93-101, 101). In *Erasmus Darwin: A Life of Unequalled Achievement*, author King-Hele agrees that Day's loan "probably saved Boulton from the bankruptcy that engulfed many entrepreneurs" during Britain's difficult recession of 1772, and enabled the scientist-mechanic to "take over Watt's engine from Roebuck" (114). See also Gignilliat 77-78. For Day's involvement in the early days of the Association Movement, see Rowland 127-53, Gignilliat 173-93, and Horace Walpole's *Correspondence with the Rev. William Cole* 2:207-08.

⁶ William Kendrick's English translation, *Emilius and Sophia; or, A New System of Education*, was published in two parts. The first volume, Books 1 and 2, appeared in 1762; the second volume, Books 3 and 4, in 1763. Thomas Nugent's version, *Emilius; or, An Essay on Education. By John James Rousseau, Citizen of Geneva*, was issued in two volumes in 1763.

⁷ I surmise that Day read one of the English translations, rather than the original French, for two reasons. First, Day refers to the English (although Latinate) cognate *Emilius* instead of to *Émile*, which suggests familiarity gained through protracted study of an English-language version. Second, as a young man Day was not as proficient in French as he would become in his later years; among the many French volumes in his library, most carry late eighteenth-century publication dates (Munby 175-92). Unfortunately, I have not been able to find less speculative (or any other kind of) proof in the many primary or secondary sources that I have scoured. (Nor, for that matter, has anyone else seemed to contemplate this issue.) The *Catalogue of the Large & Valuable Library of Books, of Thomas Day, Esquire, Deceased* (1793; reproduced in facsimile in Munby) does not list any of Rousseau's texts, although it is certainly possible (albeit unlikely) that one or more may lie buried within one of the umbrella lots—say, the twenty-four volumes of "Political Tracts" or the "quantity of English books...Ditto of French." Antiquarian book collector and cataloguer A. N. L. Munby notes, however, that "the collection, as listed for sale, can hardly have been complete" precisely because "named items include none of Day's own works, nor do we find Rousseau, the idol of his youth" (189, 192, 174).

⁸ Rousseau's original: "Tout est bien, sortant des mains de l'Auteur des choses: tout dégénère entre les mains de l'homme. Il force une terre à nourrir les productions d'une autre, un arbre à porter les fruits d'un autre" (1:1).

Because English translator Nugent captures Rousseau's style, rhythm, and word choice better than his competitor, Kendrick, I use Nugent's translation in my own text; see his 1:1 for my first citation of Rousseau. Subsequent citations to Nugent's translation will be cited in the text as "Nugent."

⁹ Rousseau's original: "un arbrisseau que le hasard fait naître au milieu d'un chemin, & que les passans font bientôt périr en le heurtant de toutes parts" (1:2).

¹⁰ Rousseau's original: "garantir l'arbrisseau naissant du choc des opinions humaines!" (1:3).

¹¹ Rousseau's original: "Cultive, arrose la jeune plante avant qu'elle meure," he continues. "Ses fruits seront un jour t[r]es délices" (1:3).

¹² Rousseau's original: "forme de bonne heure une enceinte autour de l'ame de ton enfant" (1:3-4).

¹³ Rousseau's original: "Le plus dangereux intervalle de la vie humaine, est celui de la naissance à l'âge de douze ans. C'est le tems où germent les erreurs & les vices, sans qu'on ait encore aucun instrument pour les détruire; & quand l'instrument vient, les racines sont si profondes, qu'il n'est plus tems de les arracher" (1:202).

¹⁴ Rousseau's original: "La premiere fausse idée qui entre dans sa tête est en lui le germe de l'erreur & du vice" (1:187).

¹⁵ Rousseau's original: "A chaque instruction précoce qu'on veut faire entrer dans leur tête," warns the author, "on plante une vice au fond de leur cœur" (1:197).

¹⁶ Rousseau's original: 1) "La source de nos passions, l'origine & le principe de toutes les autres, la seule qui naît avec l'homme & ne le quitte jamais tout qu'il vit, est l'amour de soi," he asserts. "Passion primitive, innée, antérieure à toute autre, & dont toutes les autres ne sont, en un sens, que des modifications" (2:177).

2) "l'amour de soi-même est toujours bon & toujours conforme à l'ordre" (2:178).

¹⁷ Rousseau's original: "on . . . aura semé dans leurs cœurs les vices" (1:248).

¹⁸ Rousseau's original: "faire usage de nos organes, de nos sens, de nos facultés, de toutes les parties de nous-mêmes qui nous donnent le sentiment de notre existence" (1:21).

¹⁹ For various treatments of Rousseau's influence on *Sandford and Merton*, see Barry 105-13; Chandler, "Defying Development" and "Pedagogical Fantasies" 50-110; Patterson 64-73; Rose 51-54.

²⁰ See, e.g., Von Baeyer; Galinski; Drayton 50-81; King-Hele, *Erasmus Darwin: A Life of Unequalled Achievement*; and Schofield, *The Lunar Society of Birmingham*.

²¹ Close friend James Keir, Day's first known biographer, provides an anecdote of Day's precocious intolerance for intellectual dodging. After reading about the whore of Babylon in Revelation, Day asked his church rector to identify this person for him. The rector, replying that the whore is allegorical, not literal, provoked from the boy this notably unimpressed reaction: "Allegorical! I do not know the meaning of the word." Day then reportedly whispered to his mother, "He knows nothing about it!" (108-09).

²² Most of Bicknell's life is a mystery since so little documentation is currently extant or available. E.g., where and when Bicknell met Day is unclear. Kippis states that Bicknell was Day's "closest and most intimate" friend among his "early connections," the "friend and companion of his youth" (21, 22). Keir merely calls Bicknell a "very ingenious friend and school-fellow" (39). Adjacent to a discussion of Day's making friends at Charterhouse with William Seward, Gignilliat introduces Bicknell as "a boy of impressive abilities" with whom Day "must have shared his aspirations." He then says "a few years later Day was to room with him as a law student" (17-18). The insinuation—by juxtaposition of content and by word choice ("boy," e.g.)—that Day and Bicknell met at Charterhouse is as full a disclosure as Gignilliat is willing to make. Rowland, swayed by Gignilliat's example, thus declares Bicknell is "Day's friend from Charterhouse days" (15). Confirming Bicknell's presence at Charterhouse is impossible, unfortunately, because student registration records were not stringently kept.

²³ Rowland and Gignilliat erroneously trust in the accuracy of *A Catalogue of Notable Middle Templars* for the date Day was called to the Bar. That reference lists 14 May 1775 (Hutchinson 700). The Middle Temple's registration catalog, however, identifies the date as 14 May 1779, which the handwritten manuscript minutes of the Middle Temple confirm (Macgeath and Sturges 363; letter to the author by Janet Edgell, the Middle Temple's Librarian and Keeper of the Records at The Library, 16 Sept. 1998).

²⁴ Richard Lovell Edgeworth asserts that Day and Bicknell shared lodgings in London at this time (*Memoirs* 1:209); Gignilliat neglects to include this key reference in his Day biography (48, 55). Bicknell, Day's elder by an unknown number of years, had entered the Middle Temple on 22 June 1761, nearly four years before Day would do the same. He was admitted to Lincoln's Inn on 24 May 1769 and then was called to the Bar on 10 Nov. 1769 (Macgeath and Sturges 357; *Records of the Honorable Society of Lincoln's Inn* 1:464). Perhaps Day hoped to benefit from Bicknell's tutelage as well as share expenses and camaraderie. Their mutual address was probably "Garden Court No. 1." According to Janet Edgell, Bicknell "had a life interest in a chamber there, his chamber apparently being on a mezzanine level above the third floor in that building." Records indicate, however, that Bicknell "surrendered this interest" in Garden Court on 15 May 1773, which apparently precipitated Day to move in with William Jones in Lamb's Inn (Edgell; Bellot 304-05). Rowland, following Gignilliat's bad example above, does not cite a source for the Day-Jones' living arrangement (53).

²⁵ See Schofield, *The Lunar Society of Birmingham* and *The Enlightenment of Joseph Priestley*; King-Hele, *Erasmus Darwin: A life of Unequalled Achievement*; Pearson, *Dr. Darwin*; Bolton, *The Lunar Society of Birmingham* and *Scientific Correspondence of Joseph Priestley*; Birmingham City Museum and Art Gallery's exhibition catalog, *An Exhibition to Commemorate the Bicentenary of the Lunar Society of Birmingham*; *An Exhibition in Connection with the Bicentenary Celebrations of the Lunar Society of Birmingham Held in Collaboration with the Birmingham Reference Library*; Bauer 10-12; Bird; Bruce; Cadbury; Darwin, *The Letters of Erasmus Darwin*; Gignilliat; Rowland;

Small; Uglow; W. B.; Wedgwood and Wedgwood; Wedgwood, *Letters of Josiah Wedgwood* and *The Selected Letters of Josiah Wedgwood*.

²⁶ Galton's daughter Mary Anne (1778-1856) claims the cognomen "Lunatics" came from the family Butler (Schimmelpenninck 1:37). Moilliet and Smith agree that Galton's butler coined the term "Lunaticks" around 1788 (12).

²⁷ Small originally traveled to England to procure scientific instruments for The College of William and Mary. Once abroad and warmed by new friendships with men like Boulton, Small decided to make his home in England permanently. Details surrounding his decision to leave William and Mary while he was overseas on College business are scant in published sources. See Small and Ganter.

²⁸ In a letter to his family c. 1803, James Keir asserted his admiration for the Stoics, who were, he says, "equally tranquil whether successful or unsuccessful. They consoled themselves with having done their duty, and they left the rest to the gods, or Providence, to determine as it pleased them" (qtd. in Moilliet and Smith 56).

²⁹ King-Hele's edition of *The Letters of Erasmus Darwin* shows that Day and Benjamin Franklin had become acquainted with each other before participating in this particular philosophical group. At the end of a letter to Franklin, dated 18 July [17]72, Darwin appends the following note: "My Friend Mr Day who saw you at Lichfield intends himself the pleasure calling of you in London" (63). Darwin's words suggest that Day and Franklin first met while Day was living in Stowe Hill between 1770 and 1771 and visiting his friends in nearby Lichfield. Franklin reciprocated Day's amiable feelings in a "long and interesting reply to Darwin's letter on 1 August 1772, though this was not known until 1977, when the last three pages of the manuscript of Franklin's reply were discovered at the Cambridge University Library" (King-Hele 64n7). Franklin "complains that he has suffered from gout, fever and headache for 16 days, for which he blames 'the Amount of Dabbling in and over your Ponds and Ditches and those of Mr Bolton, after Sunset, and Snuffing up too much of their Effluvia. A 1000 Thanks for your Civilities while I had the Pleasure of being with you.'" As for Day, Franklin adds, "I shall be glad to see Mr Day here, for whom I have much Esteem" (qtd. in King-Hele 64-65n7).

³⁰ The team of Nichols and Wray provide the most in-depth history of London's Foundling Hospital. McClure details a slightly more updated version. Owen briefly covers the Shrewsbury regional branch (333-43).

³¹ Nichols and Wray reproduce the London hospital's *Register of Governors* on pp. 345ff. Thomas Day's name appears, as follows, in the last entry for the year 1769 (382):

<i>Date of Election</i>	<i>Persons' Names</i>	<i>Places of Abode</i>
December 27 th	Thomas Day, Esq.	Barehill, near Maidenhead, Berks.

³² None of Day's contemporaries, biographers, or critics has ever pondered or questioned in print the girls' birth names (or, alternatively, hospital-given names), a strange silence in both primary and secondary sources.

³³ See *Émile* 1:235, 240, where Rousseau discusses the benefits of geometry and cosmology, respectively. For more information on science's increasing transatlantic appeal amid the upper classes, see Greene; Drayton; Clark, Golinski, and Schaffer, eds.; Shteir, *Cultivating Women, Cultivating Science* and "Botanical Dialogues"; Golinski; and G. S. Rousseau, "Science Books and Their Readers in the Eighteenth Century."

³⁴ "The Adventure in Female Education" is the title of the third chapter in Gignilliat's biography of Day (53).

³⁵ Mary Anne Schimmelpenninck (1778-1856), daughter of Lunar Society member Samuel Galton and Lucy Barclay Galton, records in her memoirs that Miss de Luc, "daughter of the Christian philanthropist De Luc, who was reader to Queen Charlotte," would regale the Galton family with stories about Sabrina's life with Day. In these versions, Sabrina bore herself bravely, as Schimmelpenninck explains:

Miss de Luc, freshly arrived from Switzerland, boarded in a family very near us, and, as we were the only persons who habitually spoke French and my parents were both literary and scientific, she found great pleasure in coming to our house. We were much interested in anecdotes she told us of Sabrina Sidney, the *élève* of Mr. Day, who was boarding at the same house with her. We heard how she stood unmoved when, every morning, he fired a pistol close to her ear, and how she bore melted sealing-wax being dropped on her back and arms; and we were told of her throwing a box of finery into the fire at his request. (1:12)

The Rev. Richard George Robinson reinforces Miss de Luc's accounts in Hopkins: "What Miss Seward says respecting Sabrina's not bearing pain heroically is not true," he states. "I have seen her drop melted sealing wax voluntarily on her arm, and bear it heroically without flinching" (qtd. on 148 from unpublished ms.).

³⁶ Seward claims that Day and Milnes wed sometime around 1780 (34).

³⁷ See, e.g., Hazard (36-37) and Jackson, *Engines of Instruction, Mischief, and Magic* (152). Jackson does concede, however, that Day "provided honorably" for the children (152).

³⁸ Jackson says that *Sandford and Merton* is "an early example" of the "good boy-bad boy" contrast that she sees in eighteenth-century children's literature (159). This motif,

however, is a staple in world folklore and in literary fairy tales and thus is neither particularly “early” nor confined to eighteenth-century printed texts for children. Cain and Abel, e.g., comprise a far earlier didactic and creative tag-team.

³⁹ In her studies Chandler does not signify upon Darton’s (previously cited) comment that *Sandford and Merton* is “a great work in its queer little way.”

⁴⁰ For classic scholarship on mothers in the late 18th century, see Stone, Ariès, Kerber, and Lewis; for the escalating importance of mothers within the 19th-century Anglo home, see Ariès, Armstrong, Coontz, Cott, Greven, Ryan, Sklar, Welter, and Wishy.

⁴¹ Note that Day does not use quotation marks to set off dialogue from the rest of the text.

CHAPTER II
GOTHIC MACHINERY: REFINING MORALITY
IN *HARRY AND LUCY CONCLUDED*

Harry: "It is a man's business to brave danger."

Lucy: "In a good cause."

Harry: "In a good and great cause, to be sure."

Lucy: "But then it comes to this—what is a great cause?"

Harry: "Is not the cause of science, my dear, a great cause?"

Harry and Lucy Concluded 3:184

In *Harry and Lucy Concluded: Being the Last Part of Early Lessons* (1825; HLC), Maria Edgeworth appropriates and then adapts Day's pedagogical model to create a richly nuanced, familial version in which a brother-sister tag-team work together to broaden and deepen their scientific knowledge in order to cultivate a better appreciation for industry at home and abroad that vigorously promotes and perpetuates a strong national profile. Specifically, artistic Lucy and her mechanically oriented brother Harry¹ team up to learn the scientific principles that will allow them to understand the workings of the steam engine and other technological wonders, which they eventually see firsthand

during a tour of the principle mining and manufacturing areas of western England. Throughout this intellectual and geographical journey the pair learns to appreciate and accommodate each other's strengths and weaknesses as they gradually develop an increasingly sophisticated comprehension of natural philosophy and its important place in their gentrified world.

On the surface, then, science proves a potent pastime, affording Lucy multiple, ongoing opportunities to deepen her emotional bonds with her brother; who luxuriates intellectually in the brave new world that it promises and provides. Yet something is amiss in this seemingly utopic endeavor. Keeping such close company, science and domesticity merge, blur, and shiver, introducing a subtly combustible aura to the children's secure home. As their domestic learning environment morphs into a figurative scientific laboratory, Harry and Lucy must simultaneously court and reject the hazardous materials, procedures, and apparatus that augur joyous discovery but require anxious care. Positioning these characters in the oscillating interstices between fear and delight, Edgeworth engages the epistemological and emotional machinery so familiar in the Gothic tradition. The dread forces at work, however, are neither demonic ghouls nor corrupt aristocrats. Those Gothic staples are instead usurped by a more insistent, compelling peril that both literally and symbolically is transforming Day's English rural plot into a ruthlessly efficient economic engine: an unwavering belief in the infallibility of science and technology. Thus Edgeworth cultivates the rhetoric of terror to counteract the progressive, male-centered values spurring Britain's increasingly technological world and to assert in their place a holistic ethos that also embraces feminine intuition and creativity, ideas rooted in the author's deeply domestic and scientific life.

Maria Edgeworth at Home

During the summer of 1792, the Edgeworth family dipped into Ann Radcliffe's *The Romance of the Forest* (1791), the thriller then "fashionable" in Clifton, England, where most of Maria's sprawling clan was living, temporarily, for the sake of brother Lovell's tubercular health.² "We were much interested in some parts of it," Maria explains in a letter to her cousin, Sophy Ruxton. "It is something in the style of the 'Castle of Otranto,' and the horrible parts are, we thought, well worked up." The rest of the book, however, appears to have been disappointing; for Maria hastens to add, "But it is very difficult to keep Horror breathless with his mouth wide open through three volumes" (14 August 1792; Hare 1:27).

While Radcliffe might have failed to sustain an aura of dread throughout her text, the same cannot be said of the early years in Maria's own life. Born to Richard Lovell Edgeworth and Anna Maria Edgeworth (née Elers) on 1 January 1768³ at Black Bourton, her maternal grandparents' home near Oxford, Maria Edgeworth spent her infant and toddler years shuttling back and forth among Oxfordshire, her great-aunts' residence on London's Great Russell Street, and her father's rented house in the Berkshire village of Hare Hatch (Butler, *Maria* 36ff.). While the indulgent Elers family provided a nimbus of familiarity, Maria's only constant emotional support was her mother, who bore up as bravely as she could in a marriage impetuously commenced between two utterly unsuited personalities.⁴ Unassuming Anna Maria, although not as perpetually pregnant as Edgeworth's later wives would be, gave birth every two years and so channeled her energies toward taking care of her babies. Edgeworth, on the other hand, restricted his focus to his own intellectual interests and to raising his oldest child, Richard, after the

pedagogical methods detailed in Rousseau's *Émile*. Between Maria's birth in 1768 and her mother's death in March of 1773, Edgeworth was continually on the move, frequently in the company of his closest friend, Thomas Day. The two kept terms at London's Middle Temple, along with Day's friend John Bicknell. When not in town or the country, Day and Edgeworth, along with Maria's brother Richard, traveled together for months, visiting Ireland in 1768 and France between 1771 and 1772 (36-43). Thus up to the age of five, young Maria's conception of family and domesticity centered on her emotionally embattled mother, who strongly impressed upon her daughter an image of perpetual sorrow. Maria would later remember only that her mother "“was always crying”" (qtd. on 37). Often bereft of her brother and only moderately appeased with the births of sisters Emmeline and Anna Maria in 1770 and 1773, respectively, Maria suffered the death of her mother only ten days after Anna Maria was born (45). Young Maria endured yet another upheaval four months later when her father married Honora Sneyd, whom Thomas Day once hoped to allure, and moved the entire family to Edgeworthstown, Ireland, which he had inherited upon his father's death in 1770 (45, 38-39). While she probably was used to being packed up like a parcel, Maria was not accustomed to seeing her father all that often; moreover, having to embrace a brand-new step-mama while she was still emotionally awirl over her mother's death would have been bewildering at the least. To say that Maria's earliest childhood years were psychologically chaotic would be an understatement.

The next several years would prove to be no easier for the young girl. She resisted parental authority, particularly Honora's, enough so that by the autumn of 1775 the seven-year-old found herself boarding at a school in Derby, England, run by a Mrs.

Latuffiere.⁵ During school holidays she visited her family in Northchurch, Hertfordshire, where Edgeworth had moved his family in 1777 (45-52, 55). The summer of 1779 broke this routine, however, for during the spring of that year Honora Edgeworth contracted consumption, which necessitated that she and her husband move to Lichfield and to Beigherton, Shropshire, to consult with Erasmus Darwin and other physicians about her health. Thus Maria spent the summer of 1779 in Lichfield and the Christmas holidays in Beigherton as Honora's illness rapidly progressed and then ended in death on 30 April 1780. Within eight months, the longest period that Edgeworth ever remained a widower, twelve-year-old Maria had to welcome yet another step-mother into the fold (67, 69). Making that adjustment perhaps more difficult and complex: step-mama two was Elizabeth Sneyd, Honora's sister, whose change in status from Edgeworth's sister-in-law to wife rendered the more intimate union, in society's eyes, at best inappropriate and at worst scandalous (70). After meeting the new Mrs. Edgeworth, Maria left the school in Derby and began studying at Mrs. Devis's Upper Wimpole Street establishment in London, where she met and became good friends with Fanny Robinson, a relationship that undoubtedly helped ease and stabilize the now thirteen-year-old's tumultuous feelings (70-71, 73). School holidays found Maria at Day's house in Anningsley, where, according to Augustus Hare, she "benefited by an admirable library and by Mr. Day's advice as to her reading," not to mention the dubious effects of doses of tar water, which Day once used to treat an eye infection that Maria had contracted at school (1:11; Butler, *Maria* 74, 75). By June of 1782, however, Maria bade adieu to Mr. Day and to Mrs. Devis and moved back to Ireland with her family, where her daily life would take on its peculiarly Edgeworthian contours.

From the age of fourteen to well past her early fifties, Maria was immersed in a domestic life centered on raising and educating the younger Edgeworth children born to Elizabeth Sneyd Edgeworth and, after her death in 1797, to Frances Ann Beaufort Edgeworth, who married Maria's father in 1798 after having visited the family the summer before Elizabeth succumbed to consumption (133, 135, 130). Biographer Marilyn Butler describes those initial years as "comparatively lonely," for the teen lacked the happy companionship of her peers (97). Sister Emmeline was away at boarding school, and siblings Anna Maria, Honora, Lovell, Elizabeth, and Henry ranged in age from nine years to infancy. It was at this time, then, that Maria, in addition to her own substantial reading and, eventually, writing, began two long-term domestic projects: assisting her father with a variety of estate responsibilities at Edgeworthstown and using the sibling model of education to help her parents raise their growing brood of children. As her father's amanuensis, Maria would accompany Edgeworth on visits to tenants' holdings, collect and record rent payments, write and copy business letters, and discuss tenants' domestic issues, during which times she actively absorbed her father's ideas, values, and policies concerning appropriate and just personnel and estate management. Indeed, Edgeworth left Maria in charge of Edgeworthstown during his absences from home as early as 1791, when she was twenty-three, and she continued to run the estate's affairs after his death in 1817. The two of them combined effectively ran the estate for sixty years (87-91, 101-02; Hare 1:12). In this managerial position, then, Maria helped make secure a home for the family when not actively engaged in chasing the little ones.

Yet the children also took a great deal of time, for, as Butler explains, "from Emmeline's return [to Edgeworthstown from boarding school] in the mid-[seventeen]

eighties to Edgeworth's death in 1817, no child went away to school; thirteen of them received all of what would now be called primary and secondary education at home, without the intervention of any tutor or governess" (*Maria* 98). To ensure that no child was ignored, Mama Elizabeth and the two older girls each took special care of one younger child. Baby Henry became Maria's charge, a responsibility that she nurtured and worried about, particularly when the child did not seem to be developing social skills at the same general time that his older siblings had (98-99n4). Typically, the older children would act as "intermediate companion[s]" to the younger ones. "Only a few steps above" their siblings on the ladder of learning, the older children could assist their charges "with a helping hand" and could show them "where to put [their feet] safely; and now urging, now encouraging, [could] draw [them] up to any height within [their] own attainment" (Edgeworth, *HLC* 1:vi). The intermediate companions would gather twice daily around a large table in the library to listen to their charges read aloud from marked passages in pre-selected books ranging in subject from science to literature to travel to biography. In this soothing atmosphere, the pairs then would carefully discuss the meaning of each word and idea both to stimulate the younger ones to ask questions and to ensure full comprehension. Maria also used these hours to read and to write, while the Edgeworth boys learned Latin from their father, who, when not reading or working on estate matters, was engaged with his scientific experiments. As Butler notes, "intellectual work from breakfast time until the family went to bed was executed in the communal situation, and accompanied by the hubbub of questions and answers, or the steady flow of reading aloud" (99). This communal, interdisciplinary, pedagogical atmosphere would fill Maria's daily life for decades. By 1795, when Maria was twenty-seven years old, she

was one of the four adults who would continue to be responsible *until well past 1817* for teaching a brood that “never at one time exceeded seven children under twenty years of age.” The Edgeworth household was unique in providing for its youngest an education exquisitely calibrated to the individual’s needs; while efficient enough, however, it was never meant, like Lancaster’s monitoring system, to crank out the largest number of students with the smallest number of teachers (172). Rather, it seems to have been meant to create Edgeworths, what Maria once described to aunt-in-law Charlotte Sneyd in a different context as “one *whole*—one great polypus soul” (9 December 1787; Hare 1:14).

Maria derived a great deal of pleasure from what I call Edgeworthian domesticity, as her correspondence attests. Perhaps her greatest compliment about the family’s sojourn in Clifton, England, where the Edgeworths settled between late 1791 and 1793 to attend to brother Lovell’s consumptive health—a great anxiety since both his mother and his sister Honor had succumbed to the disease, the latter in February of 1790—was that the daily round was so like that at home. “We live just the same kind of life that we used to do at Edgeworthstown,” she tells her Uncle Ruxton on 29 December 1791. “We live very near the Down, where we have almost every day charming walks, and all the children go bounding about over hill and dale along with us” (1:18, 19). Although she also found spending significant time away from the family to be fun and exciting, Maria often felt oddly incomplete. When she visited her married school friend Fanny Robinson Hoare in London in late 1792, the twenty-four-year-old admitted to her Aunt Margaret Ruxton her curious feelings: “Since I have been away from home I have missed the society and fondness of my father, mother, and sisters more than I can express, and more than beforehand I should have thought possible; I long to see them all again. Even when

I am most amused I feel a void, and now I understand what an aching void is perfectly well” (6 November 1792; 1:30). At age forty-five and a literary sensation, Maria felt just as she had in her socially anonymous mid-twenties. In London for six weeks in 1813 with her parents and her second sister Honora (born to Edgeworth and Elizabeth in 1791 [Butler, *Maria* 100]), Maria wrote a very long, newsy letter to “favourite sister” Fanny in which she assures the home brood that her heart belongs to them even amid the pressing attentions of London society (Colvin, *Maria* xxxv).

Believe me my dear friends my head is not turned by this
[social] vortex, though the hurry in which I write may
naturally lead you to suspect that it is. I love you all after
more extensive comparison better than before; and prefer
the life we lead at home and that state of life to which it has
pleased God to call me to any other upon earth—happy
equal marriage only excepted—marriage such as your
mothers is, and such as I hope may one day be your lot my
dear [Fanny]. Remember I say *happy equal* marriage—
nothing *less*. (18 May 1813; 67)

That Maria does not enunciate a wish for herself as well as Fanny to find a happy, equal marriage suggests that, by then, Edgeworthian domesticity had so long proved to be a comforting, stable environment, particularly when compared to the emotional upheaval of her first twelve years, that Maria simply could not fathom any other life. Indeed, five years later, after weathering severe emotional distress and a long illness following her father’s death in 1817, the fifty-year-old woman turns to simple family habits to

communicate from England how easily she can reunite and relate with them from afar via a familiar, albeit metaphysical, morning tableau: “After having written so much on business it is time I should think of something to amuse you my dearest mother and to draw a smile if I can from the dear breakfast table. *Who* is at it? Only Mamma—Lovell and Sophy? Or are the young ones all returned from Black Castle [where the Ruxtons live]? I may safely say I love you *all* whoever you be. Now let me see—What shall I tell to win a smile from you all?” (4 October 1818; 104). Maria’s unrelenting epistolary cheerfulness, however, should not be confused with the notion that all family relations at Edgeworthstown were easy and idyllic emanations from “one great polypus soul.” Far from it. Throughout Elizabeth Sneyd’s marriage to Edgeworth, the children used to compete with each other for their father’s attention, which he doled out unevenly and with great obvious prejudice (Butler, *Maria* 177-81). Frances Beaufort’s entrance into the family provided the children with a much stronger female parent endowed with “steady good sense,” a more sociable character, an authority “virtually equal” to that of her husband, and the ability to “win the affection and increase the happiness of stepchildren who were already grown up when she met them” (180, 178). Furthermore, a “longstanding coolness between the older children” concerning their father’s favoritism complicated for Maria, Emmeline, Charlotte, and Lovell the blissful, pedagogically fruitful model of sibling relations that Edgeworth propounded (179). Yet despite these understandably complicated family dynamics amid the often frustrating, exasperating, and disenchanting realities that will crop up in any large family, Maria found home life sufficiently safe and rewarding to eschew all others for it, including the artistically and scientifically inclined Swedish intellectual and royal theater administrator Abraham

Niclas Clewberg-Edelcrantz, whose hand in marriage Maria declined in 1802. “I agree with [Charlotte Sneyd] in thinking that with such a father & such friends as I have much merit & strong affection must combine in a husband to make me happy in marriage,” she wrote to her aunt Mary Sneyd in early 1803, characteristics that she failed to see in her suitor (10 January; qtd. on 194). Her strong desire for her own marriage and children, moreover, could not overcome her lukewarm feelings for him or her absolute refusal to “leave [her] own dear friends and [her] own country to live in Sweden” (192-96; qtd. on 193). Home for Maria, as scrappy as it could be, exerted a lifelong pull that never waned.

Emotional dysfunction aside, Edgeworthstown’s immersion in scientific ideas and paraphernalia, an extraordinary phenomenon unknown to most Europeans or Americans at that time, delighted all family members to varying degrees and bound them closer together pedagogically, intellectually, and emotionally. Indeed, scholar Christina Colvin, herself a descendant of Maria through the Edgeworth-Beaufort line, argues that “the strongest common interest among the Edgeworths, from the unsatisfactory eldest son Richard to the very literary and philosophical Francis, was in science” (*Maria* xxiii). Well used to their father’s scientific library, apparatus, and ongoing experimentation, the children early took as commonplace a domestic site that doubled as a laboratory. Even removing to Clifton in the early 1790s did not quell scientific endeavor. Maria mentions in letters to the Ruxtons the young ones’ “joy” as they botanized, hunted for fossils, and viewed collections of natural curiosities (Hare 1:21-22, 26). Back in Edgeworthstown, Lovell “bought a fine apparatus and materials for a course of chemical lectures” that he gave to the family at the turn into the nineteenth century (qtd. in Butler, *Maria* 66). When Edgeworth took his wife Frances and daughters Charlotte and Maria to France in

1802, scientific lectures figured in the party's regular round of amusements, along with art galleries, museums, and exhibitions (191). Although not as enthusiastic as sister Fanny about the particulars of science, Maria nonetheless did enjoy "plenty of facts" and eagerly listened to scientific conversation as well as read practical and scientifically oriented periodicals such as *Monthly Magazine* and *Nicholson's Journal* (qtd. on 220; 219). Additionally, Edgeworth's intimate connections with the Lunar Society of Birmingham kept the family in regular contact with Lunatics Erasmus Darwin, Thomas Day, Josiah Wedgwood, John Keir, Matthew Boulton, and James Watt through personal correspondence and extended visits. Maria especially appreciated her various trips to London and England's industrial Midlands in 1799, 1802, 1813, 1818, and 1822, which helped make concrete her father's metaphysical notions and allowed her to personalize the extraordinary scientific and technological innovations that Lunar friends and associates, like William Strutt, had provided for self, country, and empire (100, 141 *passim*). Closer to home, Maria's step-aunts Henrietta (Harriet) and Louisa Beaufort each turned her scientific acumen into a book for children, anonymously penning *Dialogues on Botany* (1819) and *Dialogues on Entomology* (1819), respectively (Lazarus and Edgeworth 52; Colvin, *Maria* xxxvi, 376n2). Sister Fanny was a principal observer at Edgeworthstown's meteorological station, while Harriet also "helped with the meteorological work" at Armagh Observatory after she moved in with her sister Lucy, who had married the observatory's director (Brück 54). A few of Maria's brothers also turned to science for their careers. Henry became a doctor; William "was a rail and road engineer" who "laid out the spectacular road from Killarney to Glengariff" in Ireland; and Michael Pakenham, the very last Edgeworth child, grew into "a botanist of some

distinction” (Colvin, *Maria* xxxiv, xxxvi). Astronomy also lured Henry and William into other scientific projects: Henry “supplied the Royal Irish Academy with meteorological data” from Edgeworthstown, and William “acted as observer at Armagh Observatory in the late 1820s” (Brück 49). Silvered with the Lunar touch, the Edgeworths embraced and entwined domesticity and science, turning their home and their company into a portable, glittering, scientific milieu.

It is no surprise, then, that celebrated scientists gravitated toward and found their ways within the Edgeworth circle. During the family’s initial residence in Clifton, for example, physician Thomas Beddoes—a friend of Lunatic John Keir and, according to Edgeworth, “a man of abilities, and of great name in the scientific world as a naturalist and chemist” (qtd. in Hare 1:32)—opened the Pneumatic Institution in 1793, charmed the Edgeworth children with scientific experiments, followed Anna Edgeworth back to Ireland, and promptly married her there in 1794 (Butler, *Maria* 109-10). That new tie introduced Beddoes’ assistant Humphry Davy to the fold, who became an Edgeworth family favorite long before he rose to prominence as his country’s premier chemist. Following Boss Beddoes’ precedent, Swiss surgeon John King (aka König) of the Pneumatic Institution married Anna’s biological sister Emmeline. Captain Francis Beaufort, who eventually became an admiral, “Hydrographer of the Royal Navy and originator of the Beaufort scale of wind force,” wed his step-niece Honora, while astronomer Thomas Romney Robinson, the director of Armagh Observatory, married Lucy Edgeworth (Colvin, *Maria* xxxiii, xxxv; Brück 49). Across the years many other men of science, plus the occasional scientific woman, entertained, visited, and corresponded with the family, particularly Maria, who “was more readily responsive to

scientific than to literary imagination” in both social and intellectual circles, which continually courted her as her literary fame flourished (Colvin, *Maria* xxiii). Thus Maria developed deep friendships with many scientific lights of the day, including mathematician Sir William Rowan Hamilton; Jane Marcet, successful author of children’s science books; Scottish mathematician Mary Somerville; astronomer Henry Hyde Wollaston; Edward Kater, “geodesist and inventor of the reversible pendulum for determining the constant of gravity g ”; preeminent renaissance scientist John Herschel; mathematician Charles Babbage; and physicist Sir David Brewster, “noted for many important discoveries in optics, including the law on polarisation of light,” and for inventing the kaleidoscope in 1819 (Brück 50-53; quos. on 51, 52; Colvin, *Maria*; Butler, *Maria*). So intimately was Maria’s life immersed in science that when she discovered that her brother-in-law Richard Butler had no interest in “mechanical processes,” she exclaimed, “This seems to me like wanting a sense” (Colvin, *Maria* 38n2).

Nonetheless, Maria felt woefully under-qualified to write *Harry and Lucy Concluded*, the final addition to the Harry and Lucy series that her father had originated with his second wife, Honora, in the late eighteenth century, and thereafter had co-written with Maria. Even though she starting preparing notes and plans as early as 16 July 1822, three years before the text was published in Boston, six months later she admitted to her North Carolina friend and fellow botanizer Rachel Mordecai Lazarus, “I am particularly anxious to finish well as my Father began and planned it. As this will be more scientific than the others, it will require more time and pains, and I shall not think of publishing it after it has been written till it has lain by a year” (15 January 1823; Lazarus and Edgeworth 35). Maria’s most cogent, angst-ridden commentary on authoring the

multiple-volume text appears in a personal letter to her dear friend Sir Walter Scott, dated 8 April 1825. Given its revelatory nature, it deserves to be quoted in full:

I have been this year and a half, the same more or less spell-bound in stupidity, writing 4 minikin volumes of a child's book. I conceived that I could, would, and above all should and ought to finish a certain little *work* called *Harry and Lucy* which my father began for his own children some 40 years ago, and I know regretted he had not finished it. I had at various times helped him to continue it—my part being merely to spread amusement through it, while he furnished the solid knowledge and accurate principles of science. The toil, difficulty, mortification I have gone through in finishing these last volumes without him is not to be described. If I had not had the most patient and kind of friends—his scientific friends—I could never have got through it. They have corrected and recorrected, and have sat up till 3 o'clock at this work for me!!! I have no science; and, as to accuracy, can compare myself only to the sailor who, 'would never quarrel for a handful of degrees.' I trust my friends have saved me from public shame." (Scott, *Private Letter-Books* 269-70)

Maria's claim to "have no science" is interesting, for her experiences belie that statement. She was no scientific expert, but she had a solid grasp of fundamental scientific facts long forgotten by the average and the above-average twenty-first-century American, including myself. She was also smart enough to draw upon what she already knew, mining from her past sojourns through England's industrial Midlands, as well as visits with Lunar friends, the sites, experiences, and information that would show off for juvenile readers the most noteworthy scientific and technological accomplishments that her father's generation still offered to the country and to the world. Not surprisingly, then, the text "contain[s] little material more recent than that inherited from her father," a notion that scholar Mary T. Brück seems to rue (53), for Maria was not about to tarnish her father's or her own name by tripping through topics because she feared obsolescence. Indeed, the idea that science and technology from the late eighteenth century is somehow terribly outdated by 1825 is ahistoric, fed by the contemporary reality that nothing is more obsolete than the latest version of any computer, science and technology's most ubiquitous love child in an increasingly hard-wired twenty-first-century world. Furthermore, in addition to relying on scientific facts easily accessible to her and correctable by experts, Maria champions and challenges Edgeworthian domesticity through the fictive family that she creates, which allows her to voice safely and obliquely the ambivalence that figured in her home life and, by extension, in England's domestic front.

Thus throughout *Harry and Lucy Concluded*, in various real and figurative laboratories that signify scientific space as they mimic the intimate confines and pleasurable relationships available in the home—the coalescing worlds of science and

family in miniature—experimentation presents itself to brother and sister and to readers as a happy but still dangerously charged venue for mastering and expanding scientific and national boundaries. Edgeworth thus suggests that pumps and barometers are but household analogs to England's burgeoning industries, which have transformed Day's magical, pastoral nation into an amped arena powerful enough to reconstruct the political, economic, and cultural face of the globe. In this brave new era, being culturally knowledgeable and productive requires a mental rewiring about what science should mean to individuals, to England, and to the rest of the world. For Edgeworth that rewiring must be molded to a more holistic and inclusive perception of scientific pedagogy and progress to best outfit the world for an electrifying future.

Harry and Lucy Concluded

In Edgeworth's England as well as Harry and Lucy's fictive world, men of science govern British industry and invention, secured by ideological gender norms associating masculinity with the intellectual rigors necessary for scientific progress: namely, innovation, exploration, and discovery (Schiebinger 170-244; Gates and Shteir 9, 10; J. Pearson 64-65). Harry's mechanical abilities thus herald his eventual co-optation into this influential domain. His interest in and comfort with small scientific instruments, such as hygrometers and air pumps, is equaled only by his fascination with larger mechanisms, especially steam engines. Deliberate, methodical, steady, Harry also enjoys aptitudes necessary to long-term scientific research and the repetitious, oft-times tedious tasks that such research mandates. He will study a subject until he completely understands it and will rework experiments until his results are successful. This

perseverance aids his nonscientific activity as well, allowing him to tackle his Greek and Latin translations with the same sober discipline that underlies his more energetic studies in mechanics and physical science—to which his knowledge of Latin will one day be of service. One of his favorite scientific tasks appears to be taking measurements. Reliant on strict exactitude, it requires the intense concentration and obsessive precision in which Harry delights. Not surprisingly, then, his most valued possession is a portable barometer, which allows him to hone his skills in calibration. When he uses it to measure the air pressure at the top of the Heights of Abraham, a limestone hill in the village of Matlock (now Matlock Bath), in Derbyshire, his actions etch a neat vignette of *The Young Scientist in Action*:

Harry walked off as fast as he could; nor stopped till he reached the Heights of Abraham. Then he took out his barometer, and noted down the height at which the mercury stood, both in the barometer and thermometer. Then he went down the hill, and, as soon as he had reached the bottom, he looked at the mercury again, in each, noting down carefully these heights also. Finding a retired nook, away from the public path, he sat down to work at his calculations, resolved not to stir till he had completed them.... He made his calculations sufficiently accurate to satisfy his conscience. He brought his answer within two feet of the height, which his father had told him had been determined by previous measurement. (1:204, 205)

Harry's unswerving devotion to his task is evident in his purposeful gait, painstaking notation, and resolute calculation. Moreover, the boy reveals the extraordinary depth and extent of his personal investment in science. As he computes he strives not merely for correct answers: he aims for accuracy sufficient "to satisfy his conscience." In other words, a moral principle infuses his approach to scientific methodology. This convergence of ethics and mathematics, a *sine qua non* in Harry's intellectual and epistemological perspective, marks his decided educational advancement relative to Sandford and Merton, who are just learning to use simple scientific and arithmetical sign systems for intellectual and moral self-regulation, as per Rousseau's advice in *Émile*. Harry's very sobriety suggests that he already has internalized the disciplined self-reliance, the moral gravity, so to speak, that Rousseau requires the young to develop. To wit, his father emphasizes this connection between Harry's abilities and his future when he discusses his son's barometrical calculations.

His father congratulated him upon his success, with which he was particularly pleased, because it was the consequence of perseverance. He was glad to see that his son would not be satisfied until he had rectified his errors, and had been as exact as he possibly could. This promised well for his future progress. All the rest was mere child's play.

(1:210)⁶

Yet this episode provides more than a literal test of Harry's metrical prowess. It also functions as a figurative experiment in cultural promotion. Here Harry finally fulfills his wish to measure a "mountain" and thereby take a reading of his own ability to

withstand the scientific world's rarefied atmosphere. His successful ascent, albeit brief, confirms his cognitive and cultural elevation and encourages continued adherence to the scientific path. That this course serves British imperialism as well can be inferred from the setting. The Heights of Abraham takes its name from the Plains of Abraham, a cliff-bound plateau where the British soundly defeated the French and gained control of Quebec on 13 September 1759. This decisive battle of the Seven Years' War led to British possession of Canada in 1763 (Parkman 2:1375-1401, 1498-1500). As Harry scales these memorial Heights, he re-enacts the climb up the cliffs to the Plains, which eventuated in General Wolfe's stunning victory for Britain and for empire. In this rich iconic moment he conjures imperial pride, reconfigures the scientist as conquering hero, and wraps both in Rousseau's comforting moral aura of objective scientific measure. A solid, straightforward shuttle in the orbit of natural philosophy, Harry both emulates and stands for the progressive cultural model that science and technology promise.

Harry's commendable characteristics, however, cannot obscure some weaknesses that threaten his potential. He is not very good at mathematics or handwriting, both essential sign systems in the global scientific community. That the two *overlap* when scientific notation and calculation are at hand—necessitating order and clarity for legitimate data to be produced and disseminated—only highlights their crucial role in scientific pursuits. Yet, strangely enough, Harry maintains a somewhat cavalier attitude to both skills. His year-old barometer register contains figures that are “too large, and straggling often out of their proper columns”; though they are “accurate,” these numbers require equally correct placement for them to proffer useful information. Harry's handwriting is even worse. As Lucy tells him, “Since you have set up to write a running

hand like papa's, you run all your letters into one another, so that at last, in some of your words, there is not a single plain letter.” His careless writing also lacks systemization. He makes “three kinds of *r*'s,” doesn't differentiate his “*m*'s, and *n*'s, and *u*'s, and *v*'s,” and “never put[s] the dots [of his *i*'s] over the right letter.” “Worse than all,” says Lucy, “you half scratch out, and half write over, and half turn one letter into another, and then repent, and leave it no letter at all” (*HLC* 2:5, 6). In his attempt to emulate his father's fluid handwriting, Harry has mastered, if anything, a cryptic cursive script—the antithesis of open communication. Yet it doesn't seem to bother him. He merely indicates that he “will write better, if [he] can,” in the future (2:6). His parents' silence on this topic only reinforces his nonchalance and perpetuates his need for Lucy to act as his amanuensis for their scientific experiments. In this regard Lucy is the more scientific of the two: “The habit of writing her figures exactly underneath each other, in the right rows, and of drawing straight lines and making neat little figures, all prove[...] of advantage when she [is] called upon to write down totals for him in a great hurry, or to go over and copy clearly his scrawled sums in addition, multiplication, subtraction, and division” (1:36). A master in regulating space and its contents, Lucy can capture on paper or slate a tidy representation of scientific understanding, a microcosm of the natural world as viewed through mathematical equations. She thus synthesizes the two sign systems with which Harry struggles so that he, in turn, can interpret the collated data. What is peculiar here is not Harry's need for assistance or Lucy's superior math and penmanship; it's Harry's lack of desire to master the twin foundations of science, *despite* his admonition to Lucy that the two of them “must learn to remember what [they] want for [them]selves” because they “cannot be always together” (1:28). Without *his own*

ability to communicate clearly through mathematics and writing, Harry the scientist will not be able to disseminate scientific knowledge for technological, cultural, and social improvement and will thereby confound the material and ideological purposes of science's progressive project. Figuratively, then, Harry's crabbed, cursory handwriting represents far more than an adolescent's sloppiness or immature small-motor skills: it recapitulates the narrow conceptual bounds in which he thinks as well as the jumbled incoherence that results from such stricture. These cognitive and epistemological limitations will only stymie Harry's goal of becoming a scientist.

Harry also suffers from some personal foibles that hinder his vaulting aspirations. He is so painfully shy and self-conscious that he initially hesitates to scale the Heights of Abraham because he spies a few people "farther up on the walk." Although Harry does not expand upon his dislike of strangers, his father pinpoints the problem, noting, "I dare say that those people will never think about you, unless you do something to attract their attention" (1:203, 204). That people are indeed absent from the description of Harry's mountaintop adventure is significant. Harry ascribes his correct calculations to his solitary status, certain that his numbers "would have been all wrong" had anyone been lurking in his vicinity at the top or the bottom of the hill (1:211). For him, science is a function of busy self-involvement, an intoxicating perambulation of his own mind. Being wrenched from his inner orbit by the presence of other (less exalted) entities would skew his intellectual and epistemological course, just as unknown planets affect the orbits of familiar celestial bodies. The proof is in the data. Harry's conceptualization of science thus proves rather two-dimensional. Inwardly focused and continually reinforced by the bashfulness that spurs egoistic privacy, it relishes the safety of strict boundaries and

stable knowledge systems. For Harry to be a successful scientist, he must learn to break through these conceptual and emotional limitations and embrace an imperfect, insecure, three-dimensional world of industrial science, including the people in it.

Enter Lucy, a scientifically able person in her own right who teams up with Harry to spark his educational development and enrich her own scientific understanding along the way. Unlike Harry, however, Lucy does not obsess about technological inventions or scientific quandaries; she appears, rather, to prefer poetry, drama, puns, and other forms of expressive wordplay to the thermometers and air pumps that so enchant her brother. While readers may readily accept this gender dichotomy—Jacqueline Pearson, for one, remarks upon Edgeworth’s assumption that “girls will show a bias to the arts, boys to the sciences” (65)—they should be wary of the simplicity of this interpretation. Lucy definitely enjoys literature, but she takes pleasure as well in a variety of scientific subjects, including botany, conchology, entomology, geology, and chemistry. Indeed her interest in life systems highlights a far more interesting gender divide than the obvious arts/sciences binary. By the early nineteenth century, sciences such as entomology, botany, and geology “became female more than male pursuits” (Gates and Shteir 10). Associated with healthy strolls in the open air, intellectual discipline through taxonomic classification, and easy accessibility to natural theology, these areas reiterated the centuries-old pairing of females and nature, provided easily transferable lessons in organization and management (what a plus for housekeepers!), and highlighted the moral and spiritual dimensions of nature’s wonders (Schiebinger 241-44; J. Pearson 66, 67; Gates and Shteir 11). So viewed, this specific scientific content both reinforced and regulated the distaff side’s domestic boundaries as it encouraged nascent intellectual

production. Lucy's affinity for natural sciences is thus a mark of her femininity, just as Harry's mechanical and industrial inclinations are signs of his masculinity. As each other's scientific complements, brother and sister can engage in Edgeworth's "system of mutual instruction" as each other's "intermediate companion[s]" with an easy familiarity not readily available to siblings diametrically opposed along an arts-and-sciences continuum (1:vi).

Perhaps more important than this shared interest, however, are the epistemological differences that emerge in Harry and Lucy's discussions of various scientific topics; entwined with and springing from particular gendered tastes, these contrasting perspectives reveal science's deeper mediation in the siblings' relationship. At the onset of the family's journey through England, Lucy happily observes a "glittering, floating, waving net" of gossamer in a nearby cornfield. She then promptly regales her brother with interesting facts about spiders and silkworms that she learned from Louisa Beaufort's *Dialogues on Entomology: In Which the Forms and Habits of Insects Are Familiarly Explained* (London: Printed for R. Hunter, 1819), "her favourite book of insects" (1:164).⁷ "Exact Harry"—"always more curious about the causes of whatever he [sees], than pleased by their appearance"—"look[s] at the gossamer earnestly" but cannot sympathize with his sister's joyous aesthetic sense; he agrees that the web is beautiful, but his words are "uttered in a cold tone, which [does] not satisfy Lucy" (1:165, 163). Harry craves instead precise details about the web-spinning spider's locomotion. "Whether the flying spider flew, or crept, or rode, walked or darted upon the gossamer, or whether he moved of his own free will, or was blown, or borne away by the wind" are key issues, for in Harry's eyes, the arachnid is a natural analog to a machine

(1:165). He best understands it by asking questions like, “How does it move?” and “What propels it?” Unlike *Sandford and Merton*’s Master Mash, whose belief that horses are “engines for the winning of money” (Day 2:241) belies a morally corrupt epistemology favoring conspicuous consumption and the merciless exhaustion of *living* tools of production—especially human slaves, who share with the horse the egregious name and role of property—Harry respects the natural world and appreciates it most when he can understand it in mechanical terms. That he “trace[s] every thing good or great” along the journey to “[its] connection with the steam engine” only underscores how thoroughly mechanistic his viewpoint is (Edgeworth, *HLC* 2:178).

Lucy, on the other hand, appreciates nature’s aesthetic qualities. Her admiration leads to scientific study, which then redoubles her delight with the natural world. “I feel much more pleasure in looking at things,” she says, “when I know something about them, even if it is ever so little” (1:168). Her stance may appear simple and self-denying, but it belies a scientific perspective more holistic than Harry’s mechanical outlook. By synthesizing science and aesthetics in her studies, Lucy imbibes the same balanced perspective of the natural and scientific worlds that female writers of juvenile scientific textbooks sought to inculcate in the late eighteenth and early nineteenth centuries (Gates and Shteir 8; Shteir *Cultivating Women*). That Edgeworth gives Lucy this epistemological equilibrium is important, for she thereby sets up yet another gender contrast between brother and sister. Lucy’s holicism is both an oblique critique of, and the feminine counterpart to, Harry’s masculine obsession with the technological applications of science, epitomized most starkly by his fetishistic regard for his portable barometer. Apparatus can help the boy measure natural properties, like air pressure, an

undeniably helpful function in scientific matters. Yet in a Rousseauian world where scientific activity is an object of veneration for the moral qualities it is supposed to imbue, instrumentation and machinery do not have all-encompassing influence. They cannot gauge, for example, the important characteristics that will aid Harry's ontological progress. Lucy's equilibrium, on the other hand, does exactly that. Created and enhanced by a well-rounded intake of aesthetic and scientific pursuits, this sense of epistemological balance also registers the girl's ontological status *and* signals its need for adjustment. We can see it at work, in fact, at the beginning of the book.

The text opens with a dialogue between Lucy and her mother, in which Lucy tries to explain the misgivings she feels about her current state of mind.

“Mamma, do you recollect, two years ago, when my father was explaining to us the barometer and thermometer, and when he showed us several little experiments?” said Lucy, and she sighed.

“Yes, my dear, I remember that time very well,” said her mother; “but why do you sigh?”

“Because I was very happy *then*,” said Lucy.

“And are not you happy now, my dear?”

“Yes, mamma, but not so very happy as I was then, because now I do not *go on* with Harry as I used to do.”

(1:11)

Engaging in scientific experiments with her father and brother had been pleasant and fulfilling, particularly because it had brought Harry and Lucy closer together on both

intellectual and emotional levels. Functioning as a familial mediator, tag-team science had created in Lucy a satisfied sense of world and self that skidded off-track once lessons with Harry came to an abrupt halt. Life with Harry “*then,*” as the text’s italics stress, was complete and thus recapitulated the epistemological and ontological equilibrium that she had been taught to value and maintain. Lucy refers to it as ““that happy barometer time”” precisely because the phrase encapsulates the formula that makes life meaningful for her: personal progress through sibling closeness amid scientific pursuits (1:12). Moreover, that “time” did not eschew literary and aesthetic activities, for it involved only an hour or two (if that) every morning. Lucy could enjoy nature and barometers and poetry and sewing and feel whole. When her education took a different direction, however, it altered this balanced curriculum and ultimately produced within her an intellectual and emotional vacuum pronounced enough to mandate amelioration.

This change occurred, ironically, because Lucy’s parents did not respect the holistic perspective that they were inculcating. Rather, they believed that their daughter was creating her own intellectual imbalance through an improper fixation on science, and they took steps to rectify that situation. Via a concise dialogic exchange—with Mother remarking that Lucy ““thought of nothing but experiments,”” and Father insisting that ““that must not be””—Lucy’s pedagogic schedule was instantly reformed. She ““was not allowed to go into [Father’s] room with Harry in the mornings,”” and had to concentrate instead on ““arithmetic, and drawing, and dancing, and music, and work [i.e., sewing]”” (1:12, 13). Denied regular science tutorials for the sake of her feminine equilibrium, Lucy had to imbibe instead an artistically oriented pedagogical program that grew increasingly one-sided after her mother became ill enough to merit sending her daughter

away to Aunt Pierrepont's house. There she "read nothing but stories and poetry" for "a long—long—long time" and in the process lapsed into a state of emotional and intellectual disarray that her parents, paradoxically, were trying strenuously to avoid (1:13).

That Lucy, unlike her father, now is able to correctly diagnose her problem is only one of the dense layers of irony that Edgeworth creates with this scenario. Through her own inner barometer, so to speak, Lucy recognizes that a return to sibling scientific pedagogy will help her right her sense of epistemological dislocation, a faulty faculty that manifests (after the text's opening pages) as an inability to concentrate well on her brother's tutorials. Her early scientific education thus equips her with the right tools to navigate her own inner space—that feminine moral center, which such pursuits allegedly endanger when "over"-exposed to science—and assert some control over her future (despite her youth) by informing her mother about her need for change. Arguably, science *protects* Lucy's femininity, for it enables the girl to fight for self-preservation and to enlist her mother's moral authority in that campaign.

Father's fluctuating view on the relationship between science and femininity is difficult to categorize simply. For years he has taught his daughter useful scientific principles to increase and improve her understanding. She happily complies, and science certainly appears a good thing. Once Lucy appears *too* interested in it, however, her father's perspective changes immediately, and he removes his daughter from science's ambit. Then, two years later, he neither protests nor inhibits Lucy's return to studies with her brother. Presumably Lucy no longer displays an alarming fascination with science and thus is safe to court it once again. Yet this very lack of so-called obsession points not

to a parentally induced equilibrium but to an utter ontological discombobulation. And when this problem declares itself through inattention to science, Father sees a confirmation of cultural gender values rather than an irrupted gender identity. His solution, of course, is egregiously ironic, for he asks Lucy to practice the discipline that science deserves and will endow upon her if she only tries—this from the man who could not see how well she had internalized science when she was allowed to study it. The words he uses on this occasion are particularly noteworthy. Specifically, Father says, ““Your attention, Lucy, passes too quickly from one thing to another. You are what is vulgarly called bird-witted”” (1:224). The meaning of the first sentence is perfectly clear, making the second sentence redundant and more than a little insulting on several levels. Articulating the class-bound term *bird-witted*, and then identifying it as such in association with Lucy, links the girl and her intellect with that of the common folk who lack her educational opportunities. Father thus intimates that Lucy’s apparent flightiness⁸ betrays an upper-class inadequacy, a failure to comprehend the peculiar class benefits of science’s role in mental self-regulation. This derogatory comment also carries overt gender connotations, for the “bird” in *bird-witted* has denoted a young maiden, or girl, since the twelfth century. This particular meaning remained current among Edgeworth’s contemporaries, including the popular Walter Scott, who used it in *Old Mortality* (1816).⁹ Lucy’s wavering attention is thus insinuated to be a particularly feminine foible, evidence of the inferior female mind that requires and yet resists science’s masculine control. In one brief sentence, Father damns his daughter for the inferior state of mind that he engineered and congratulates her for proving that his educational schematic rescued the very femininity that requires his intervention. Controlling Lucy’s access to science thus

appears to be Father's unconscious way of infantilizing her intellect, revivifying both Daddy's little girl and that little girl's need for paternal governance. If that is indeed the case, then Lucy's serious interest in science is dangerous because it signifies her impending adulthood, her intellectual awakening to a certain cognitive independence that defies cultural norms of female amiability, compliance, and accessibility. Making science itself accessible, therefore, is a tricky project for parents who wish to give their daughters intellects equally supple to knowledge and to cultural regulation.

This pedagogical quandary evokes a weird emotional tenor in the opening discussion between Lucy and her mother. Even though Lucy is joyful about rejoining Harry in his studies, she cannot quell a disquieting frisson of fear at the thought of pursuing science. During her stay at Aunt Pierrepont's she had been introduced to the notion that "scientific ladies" are violently offensive creatures who lack any redeeming qualities. Keeping in mind her own scientific background, Lucy could only infer that she too belonged to this corrupt sorority, a thought that made her feel "ashamed and frightened" (1:16). Lucy's suspicion about her eventual ontological rehabilitation is eased a bit when, upon returning home, she witnesses again the happiness her parents radiate as science nourishes their relationship. Nonetheless, she cannot shake the uneasy feeling that someone, somewhere, hates her merely because she knows science; and as she tells her mother, "I am so much afraid of being abhorred" (1:17). Mamma reassures her daughter that everyone will not abhor her. Indeed, she says, "you will find many people have different opinions upon this subject." Yet she also carefully delineates for her daughter the very narrow space in which females can negotiate the scientific world.

“All will agree with your nameless gentleman, that when women pretend to understand what they do not, whether about science or any thing else, they are absurd and ridiculous. And if they talk even of what they understand, merely to display their knowledge, they must be troublesome and disagreeable. Therefore they should take care not to do so. They should be particularly cautious of talking on scientific subjects, because they seldom obtain accurate knowledge; they are, therefore, likely to make mistakes, and to be either troublesome in asking questions, or ridiculous in showing ignorance and conceit.” (1:16)

Absurd, ridiculous, pretentious, troublesome, disagreeable, wrong, ignorant, and conceited—these cacophonous qualifiers await the female mind that attempts to drag science into a public arena, so caution indeed is a mother’s most practical advice to her daughter. The cultural assumptions that underwrite this stance insist that females naturally confound cognitive agility and accuracy, particularly in the scientific realm. So what is a girl supposed to do to be culturally accepted? She must cultivate connections among “persons of sense” whose genteel, refined understanding can winkle out the genuine from the faux and therefore appreciate a little real scientific understanding. “Sensible men,” notes Mamma, “would be ready to assist any unaffected, unassuming woman, who really wished to inform herself, and would like her better for being interested in their conversations, their writings, and their pursuits” (1:17). The key is to understand that females are always treading on a male preserve when it comes to science,

whether they are merely “wish[ing] to inform” or actually informing themselves. Proffering this desire or knowledge must be done quite delicately—unaffectedly, unassumingly—because the fragile male ego is far more ready to believe that the female mind harbors false ideas about intellectual usurpation than that it craves intellectual companionship. Basically, girls like Lucy are exhorted to internalize *men’s* fears about how women and science signify in order for science to mediate correctly within a male/female relationship. Then they can be ““agreeable companions to their fathers, brothers, husbands, or friends, if they are so happy as to be connected with sensible men.””

Mamma does try to soften this blow by mentioning other rewards for learning science. Women, she says,

“increase their own pleasure in reading and hearing of scientific experiments and discoveries; they acquire a greater variety of means of employing themselves independently, and at home. But above all, the acquisition of knowledge not only enlarges but elevates the mind, by filling it with admiration and gratitude towards that bountiful Providence, who has established such wise laws for the welfare and preservation of the world.”

Yet the promise of intellectual satisfaction, useful skills, and religious devotion appears chimerical to Lucy, whose “imagination” is “still a little alarmed” at the fearsome emotional labor that her mother describes. She cannot stop ““feel[ing] afraid of being *abhorred*”” or forget that ““acquiring knowledge”” can put her in ““danger””—

specifically, the danger of being “vain” (1:18). In this context Lucy’s use of the word *danger* is electrifying because it seems so extreme and yet so apt. Poised to recapture her equilibrium with the help of sibling science, Lucy must face the jolting notion that the key to her ontological health may actually be a tool of self-corruption and deeper epistemological chaos. To what can she cling for safety if cultural assumptions have the power to ensure her social death? Although Mamma reassures her that her own education is of “no peculiar distinction,” she cannot alter Lucy’s shocked realization that growing up amid science will be the most critical, explosive experiment of her life—one for which she will need to “take the greatest care” (1:19).

Ironically, Lucy’s need to guard her development is counter-intuitive to her bustling imagination, her most active faculty, as well as what is arguably the characteristic most necessary for the dashing scientific explorer in an imperialist transatlantic empire. Harry, however, lacks this crucial component, an irony that Edgeworth subtly comments upon in an episode early in the first volume. The siblings sit down to drain a large mud puddle with a small glass pump after Harry has taught his sister about a pump’s inner workings. During this mucky experiment, visitors arrive at the house, which prompts Harry to investigate: “Up jumped Harry, upon what he called his throne, a heap of stones, from whence he had a full view of the carriage. It was one he had never seen before. Lucy clambered after him, to share the exalted view from his throne, and to assist his judgment with her eyes and her imagination” (1:90). At first Harry appears the master of this situation. With quick action and proprietary manner, he enacts his place within the aristocracy of scientific intellect from an elevated stance both literal and figurative. The natural elements comprising his “throne” render his perch both

ideologically sound and scientifically apt, as well as provide a masterful perspective that arises from and supports his intellectual position. This moment proudly anticipates the boy's later climb up the Heights of Abraham and thus can gull the unwary into believing in Harry's apparent superiority. He may have "judgment" and regnant status, but Lucy is the one with "eyes" and "imagination." How important these qualities are emerges as the scene progresses. Since neither wants to entertain company—Harry hates strangers, remember, and Lucy's ashamed of being seen in muddy clothing—the two take refuge in Harry's "observatory, in the great sycamore tree" (1:91). To further thwart detection they then climb "a step higher, into what [Harry] called his dark attics, where the branches were so thick, that he was sure no morning visiters [*sic.*] could see them, or think of looking for them" (1:92). Here Harry is content to spend an hour puzzling over a mathematical problem posed to him by his uncle. He thus diverts himself amid nature's seemingly safe lush foliage, like Tommy Merton does at the beginning of *Sandford and Merton*. Yet the surrounding "dark attics" signify a danger more insidious than the snake that coils itself around Merton's leg, for they link Harry with Frankenstein, another student who retreats to a murky attic to engage unfettered in scientific work. In Gothic terms the attic corresponds to the human mind, in Harry's case one unencumbered with the illuminating imagination that so animates and drives Frankenstein's experimentation. Where Frankenstein's ill-lit chamber attests to the older man's peculiarly constricted perspective concerning the morality of his pursuits, Harry's "dark attics" suggest instead an imaginative void in which no questing spirit can currently find purchase—a significant threat to the boy's future as an intrepid scientist. For Harry science is a sanctuary, a deliciously domesticated site for comfortably structured mental activity, like tidy

equations, so neat and precise. Imaginative cognitive play would disrupt his equilibrium because it crashes through the epistemological boundaries he so lovingly protects. Harry cannot follow or understand Lucy's mental acrobatics precisely because they confound his sense of intellectual propriety. This cognitive difference is played out in the physical plane while brother and sister are in the tree. As Harry homesteads a particular branch, Lucy scampers all over the place, "scrambling up and down to see if the carriage [is] gone, or whether mamma waved her handkerchief again. At length, having succeeded in solving his [mathematical] problem, he held her fast by the gown, insisting upon her sitting still and thinking of it, which, as he assured her, would make the time appear to go much faster" (1:93). Harry just cannot fathom why Lucy is constantly on the move investigating, observing, and crisscrossing tree limbs, so he feels impelled both to physically restrain her and "insist" upon her compliance in order to preserve the peaceful security of his dark attics. In his own way he is as myopic as Frankenstein; and he needs Lucy's "eyes" and "imagination" to open his tunnel vision and spark his imaginative faculty if he is to succeed as a scientist.

Appropriately, then, Edgeworth expands Harry and Lucy's horizons by sending them on a tour of England's scientific and technological wonders created and/or helmed by the friends, associates, and members of Birmingham's Lunar Society. In so doing she closely follows Erasmus Darwin's pedagogical advice to acquaint children with the imperialistic advantages of a new Industrial Age. In *A Plan for the Conduct of Female Education in Boarding Schools*, Darwin suggests that

the various arts and manufactories, which adorn and enrich
this country, should occasionally be shewn and explain'd to

young persons, as so many ingenious parts of experimental philosophy; as well as from their immediately contributing to the convenience of life, and to the wealth of the nations, which have invented or established them. Of these are the cotton works on the river Derwent in Derbyshire; the potteries in Staffordshire; the iron-founderies of Coalbrooke Dale in Shropshire; the manufactories of Birmingham, Manchester, Nottingham; but these are not in the province of a boarding school, but might be advantageously exhibited to young ladies by their parents in the summer vacations. (43)

While Darwin's text restricts his remarks to female education, his opinion nonetheless jibes meritoriously with Edgeworth's attempt to position science as a normative juvenile practice in a domestic domain both local and national. Pumps and barometers are but household analogs to England's burgeoning industrial complex, which has transformed Day's magical, pastoral nation into a charged arena powerful enough to reconstruct the political, economic, and cultural face of the globe. In this brave new era, being culturally knowledgeable and productive requires a mental rewiring about what science should mean to individuals, to England, and to the rest of the world. Up-close exposure to "so many parts of ingenious experimental philosophy," as well as their relative fiduciary and social benefits, would expand upper-class children's frames of reference and, perhaps, even consolidate their acceptance of and loyalty to the risks that precipitate scientific and technological breakthroughs. For Lucy, whose life is a precarious experiment, and Harry,

whose life is safely experimenting, taking the techno tour presents an opportunity to cultivate a deeper appreciation for domestic industry at home and abroad that vigorously promotes and perpetuates a strong national profile.

As per Darwin's recommendation, the children's first major stop is a cotton works, specifically, an Arkwright cotton mill in Lancashire, where Harry and Lucy learn the interconnections among observation, imagination, and empire. During the tour they discover that Sir Richard Arkwright, "originally a poor and illiterate man," propelled himself into knighthood and an "immense fortune" through "his inventions and improvements," most notably the water frame,¹⁰ which produces stronger cotton thread than James Hargreaves' spinning jenny (Edgeworth, *HLC* 1:180, 184). England's consequent use of such "ingenious machinery ... instead of doing all by the labour of men's hands, as in India," makes material, both literally and symbolically, the superior economic impact of English cotton manufacture (1:187). "Its machinery earns for England one thousand pounds every working hour," proclaims the factory's principal proprietor. "Forty thousand pounds weight of cotton wool is spun, and in three minutes the length of the thread spun would more than circumscribe the whole earth" (1:188). With these words Edgeworth offers an indelible image of facile imperialism: The English inventor becomes a daring space cowboy who rides his machinery to lasso the world, and with it, the cultural and financial reputations of subaltern populations. Individual invention thus powers new-world conquests and old-world transformations seemingly single-handedly. The laborers who make these wonders possible—the slaves, the working class, the children in both groups—are conveniently missing, for they detract from the glorious nineteenth-century vision of the questing mind and spirit that benefits

self by advancing the nation. More important to Edgeworth's idea of progress are "the habit of observation and the power of invention," those characteristics most responsible, in Father's eyes, for Arkwright's success (1:180).

Historians have since refuted this mythic image of Arkwright, who apparently appropriated and capitalized upon someone else's invention, and have ascribed his longstanding importance to the shrewd use of water- (and later, steam-) driven machinery within a factory system of mass production (Mantoux 223-34). Although Edgeworth glosses over Arkwright's public trials "in establishing his right to the invention"—foregoing, for example, Erasmus Darwin's and James Watts' interventions on his behalf on one occasion¹¹—she does so to downplay capitalism's squirrely side and highlight instead the nimble imaginations behind successful innovation (*HLC* 1:185). Anglo ingenuity, she stresses, gleans information from a variety of sources and puts it to use in interesting ways. The key is keeping eyes and mind open to *all* possibilities, just as Lucy did when she walked with her family to the mill earlier that morning. "A variety of objects caught [her] attention" and allowed her to experience more fully than her brother the sensory information that the "busy streets" had to offer. Harry, of course, "was so intent upon what he expected to see at the end of his walk, that he did not look either to the right or the left as he passed." This tunnel vision prevents him from observing and learning about the surrounding environment and accentuates his mechanistic tendencies. For instance, just as he stares on a fixed horizontal plane while he walks to the factory, so the "huge beam of the steam engine [that he is going to see] move[s] up and down" in a constant vertical "uniform motion." Harry is "satisfied" to stand and watch this monotonous function "for some time" precisely because he understands, approves of, and

sees himself within its linear movement (1:169). Yet, if he could disassociate from this deep identification with the steam engine, he would free up space for his imaginative faculties to stretch and grow, a possibility suggested by the dream he has that evening.

Harry dreams, anachronistically, that he is inside a gas-lit German palace belonging to Otto von Guericke (1602-1686), the German engineer and physicist who invented the first air pump. ““The inside of the palace [is] like a cotton-mill, and there [is] a great engine going on working away.”” Harry, however, is interested in finding ““Otto’s laboratory,”” which is located ““at the top of the house”” via a series of ““high ladders.”” Just as he ““reach[es] the top, and a door open[s], and [he] hear[s] the rustling of Otto Guericke’s [*sic.*] silk night-gown””—in the dream, Von Guericke is ““trying experiments *always*, in his silk night gown [*sic.*]””—the descending ““beam of a steam engine”” bashes Harry on the head, and he wakes up (1:197, 198). The combination of elements here is intriguing. The (ostensibly wooden) high ladders stand in for the tree limbs that provide access to Harry’s “dark attics,” here evoked again through the recurring Gothic symbol of the human mind as top-story room. The dream suggests that Harry is eager to stimulate his imaginative void, or dark attics-cum-inner-laboratory, by refurbishing it with the glorious ideal of his favorite inventor—the constantly experimenting, luxuriously clad, globally influential Von Guericke—but the steam engine confounds him just as he reaches his mind’s open threshold. In other words, Harry’s narcissistic perspective, symbolized by the steam engine, blocks his imaginative growth and personal advancement, an evaluation with which his father concurs.

“You, Harry,” he says, “have acquired the power and habit
of fixing your attention steadily on your own pursuits, but

you cannot easily turn your mind from your own thoughts
 to what is going on near you, or to what other people wish
 you to think of.... You have perseverance and laudable
 ambition enough, ... but the danger for you is, that you
 should confine your attention too much to one small circle
 of objects, and not enlarge your mind by general
 observation and knowledge.” (1:225)

Ironically, the paternal authority that encourages masculine self-regard now propounds a less egoistic mindset; yet Father is not contradicting himself as much as he is urging his son to develop balance through increased exposure to new ideas and situations. The boy must learn to calibrate himself, in addition to the myriad scientific instruments he so enjoys. Simultaneously Harry also must realize that his limitations *imperil* his potential scientific success. Although Father earlier had assured him that his penchant for accuracy “promised well for his future progress,” making “all the rest ... mere child’s play,” he now admits that his son must grapple with “danger” in order to develop appropriately (1:210). On the one hand this idea is not surprising, for Harry will have to confront far more serious threats as an intrepid explorer; adjusting now to age-appropriate “danger” is good practice. On the other hand, the use of a word as charged as *danger* seems excessive in regard to self-preoccupation—until we remember that Lucy, too, used it in a similar fashion and context at the beginning of the text. In the world of science, sister and brother face culturally constructed gender perils: Lucy, navigating the narrow confines of acceptable “feminine” behavior in a male dominion; and Harry, negotiating the confusing boundaries of masculine narcissism in two male dominions—his own

person and the realm of science. To one day be capable of creating his own “ingenious and bold contrivance,” Harry must observe and explore his inner and outer worlds to understand the imaginative play that invention requires (1:187).

A visit to the Black Country soon provides a striking opportunity; continuing with Darwin’s scientific circuit, the children approach an iron foundry by night after spending a few days in Staffordshire learning about Wedgwood’s innovations in pottery manufacture and design. The environs appear disturbingly otherworldly as Harry and Lucy strain to fit the fiery prospect before them into an understandable frame of reference: “Flames seem[...] to burst from the ground at intervals of a few yards,” while “great sparks fly[...] up against the sky”; against the red horizon a stark black tower jets “a body of flame undiminished, undiminishing, ... blown to and fro by the wind, nobody near or heeding it” (2:37, 36, 39). Harry is so overcome by this sight that he actually uses a simile to describe it, alerting his father to the “flames red as blood bursting from the top” of the volcanic tower (2:36). Embroidering upon her brother’s singularly literary moment, Lucy likens the area to “the infernal regions” and “the country of the fire-worshippers in the Arabian tales” (2:38). Harry does not agree with this imaginative foray, but it spurs him to rummage through his mind’s library for clues until he guesses, correctly, that they are near a foundry. For this independent, creative exercise Father rewards his son by explaining the origin of the surrounding fires, information that only “increase[s]” Harry’s “interest” in the “wonderful reality” that science offers humanity. As this moment reveals, a little intellectual exploration can open exciting new vistas to the probing mind intent upon mastering science.

The mastery of science proves a facile concept in this Vulcanic region where machines dominate the landscape and the labor force; superior over all is Harry's beloved steam engine, a material reminder that science mediates class in addition to gender in the early nineteenth century. When Harry spies several of these machines close to the foundry, he spontaneously bursts into this revealing reverie: "'There they are, going on all night long, working, working, working, always doing their duty, by themselves, and of themselves; how very' ... 'Sublime,'" says Lucy, finishing his thought (2:40). Whereas Day condemns the perpetual labor of slaves and horses—those "engines for the winning of money" (*Sandford and Merton* 2:241)—through the corrupt mouthpiece Master Mash, the steam engines' continual, inexhaustible labor, represented in *Harry and Lucy Concluded* as duty fulfilled faithfully and independently, affirms and upholds that tenet of classical republicanism honoring the self-governing property owner who, free from outside control, dutifully produces only incorruptible labor and thought with which to benefit and elevate the state. As the son of a property-bearing gentleman, Harry understandably sees in the steam engine a noble manifestation of this ruling-class ideology. To him and to Lucy it truly is "sublime" because it signifies the powerful wisdom, lofty aspirations, and ongoing cultural elevation of the scientific upper class, the moral and intellectual force, as they understand it, driving England's economic progress. Although this machine has been instrumental in transforming former farmland into a smoke-laden, "black dreary waste, with half burning, half smothering heaps of dross, coal, and cinders," Harry "[can] not help feeling a great respect for the place" where industrial wonders supersede nature's possibilities (2:41, 42). Together, science and technology have created a flourishing, mechanized new Eden populated with the

productive fruit of their union, the steam engines that “seem[...] to abound, and, in truth, to have the world almost to themselves” (2:42).¹²

With the word “almost” Harry acknowledges a human presence in this world of metal and coal, yet the subtlety of his recognition fits into a rhetorical pattern that actively sublimates viable working-class labor. The children pay little attention and grant no credit to the people who staff the foundries and forges and tend those allegedly independent machines; their interest lies with the proprietors, who guide the family around the factories. Correspondingly, the text represents the proprietors as solid, respectable, courteous gentlemen, while it rends the common laborers into haunting wraiths or synecdochic body parts. Night-time coal workers “by one of the fires, nearest the road” are mere “figures with pale faces, like spectres,” despite “the light shining strongly on them.” As one of these ghostly folks proceeds to “shovel[...] up the burning mass” before him, he is reduced to his “bare arms, and his shovel” (2:38). Daylight only throws this fragmented representation into stronger relief. “Every man, woman, and child” they meet is a set of “hands and faces” that are “begrimed with soot” (2:42). Similarly, a man tending a red-hot furnace becomes a pair of “brawny arms, bare up to the shoulders, and a face shining with perspiration” (2:42-43). This decided emphasis on working-class physicality, nakedness, and dirt so accentuates the manual and hence brutal nature of commoners’ labor that, by contrast, managerial gentlemen and glorified machines cannot appear anything but cerebral and immaculate masters. Relegated to servile status and disembodied, ironically, from the human form that defines their function, the workers acquire grotesque proportions that confound their individuality as thoroughly as the cacophonous environment extinguishes their voices.

Lucy trie[s] to make Harry understand, that she [thinks] the men [are] like Cyclops; but she [can] not make him hear the words. In this place, it seem[s] in vain for human creatures to attempt to make use of their voices. Here wind and fire, the hammer, the bellows, the machinery, seem[...] to engross the privilege of being heard. The men [go] on with their business in silence, only making signs when they want[...] you to stand out of the way. (2:43)

In this passage Edgeworth draws upon her impression of the copper works in Holywell, North Wales, which she visited in September of 1802 and described as follows in a letter to Sophy Ruxton, her cousin: “A stunning noise, Cyclops with bared arms dragging sheets of red-hot copper, and thrusting it between the cylinders to flatten it; while it passed between these, the flame issued forth with a sort of screeching noise” (25 September 1802; Hare 1:83). Conflating the bare-armed workmen with the one-eyed giants who forge thunderbolts for Zeus, Edgeworth casts the common laborers in an otherworldly guise that blurs their humanity and emphasizes their subordinate status on a mythic scale. The men can express themselves through sign language, but the single exemplar of their vocabulary—some form of “Get out of the way”—irrevocably positions the upper-class visitors as subjects, objects, and interpreters of a communication rendered primal by the very machines that men of science built. Thus ensconced in the creative, authoritative role of industrial deity, the ruling class appears the eminent master and architect of scientific and technological progress in the epic story of England’s majesty.

Yet there is more to domestic sovereignty than this simple class binary would suggest; through Mr. Watson, “the master of the works,” Harry discovers a complex human world amid the machines (2:43). Under Watson’s guidance, Harry and Father descend the depths of a colliery, where, among its meandering “galleries and passages” Harry is “surprised to see the numbers of workmen, and of carriages that [are] conveying the coal.” Observing science at work through this human phalanx has a subtle but significant effect upon him. Though he also has “the pleasure of seeing what he had long wished for, the manner in which a steam engine [is] employed in pumping out the water that collects in a mine,” once above ground again Harry is more deeply impressed by Watson’s benevolent relationship with the laborers (2:45). He is especially “interested in listening to what [is] said to the people” that evening as Watson pays the workers their wages: “Mr. Watson inquired how they were going on at home, and they told him all about their wants, and their hopes, and their fears.... Several of the workmen left part of their money in his hands, to be put into the *Savings bank*” (2:51). Harry sees here that the apparently straightforward matter of capital outlay is a complex affair encompassing personal ambitions, emotional needs, familial issues, and economic trust. Edgeworth plays upon this idea of fiduciary fidelity with a particularly deft touch.¹³ Instead of writing that the laborers leave their money with Watson, she notes that they deposit it “in his hands,” a tacit recognition that capital’s power can share labor’s synecdochic rendering as well as an idealistic nod to the traditional notion of mutual reciprocity between workers and property owners. For indeed, what Harry witnesses is an elaborate class fantasy. In Watson’s capable hands labor relations is a well-oiled machine unclogged by trade unions or associations, exploitation, alienation, suspicion, or distrust

because it is lubed with the discourse of domesticity and the emotional intimacy that such discourse eventuates. Accustomed to the pairing of science and home, Harry takes this fantasy for granted. Watson's managerial style, after all, plays into the lad's traditional notions of *noblesse oblige*. The man is "steady as well as good-natured to the people. The industrious and frugal he encourage[s], the idle and drunken he reprove[s], and he [takes] pains to see that justice [is] done to them all" (2:52). Furthermore, through this clear juxtaposition of the wise "master" and his needy "people," Harry can better appreciate how necessary *equilibrium* is to maintaining labor relations, especially when he sees in this new context how tricky the ethics of this process can be. For example, even though the drunken John Giles has a dependent wife and children, Watson must temporarily terminate his employment in order to benefit the more deserving Markham, "who [is] a sober fellow" and deserves the job (2:67). The mastery of science, Harry realizes, involves more than mechanical ability; it requires a firm moral compass to navigate the complexities of rightful authority, a concept that he articulates to his father with uncharacteristic loquacity.

"Father," said Harry, after a long silence, and looking very serious, "I thought that a great mechanic was only a person who invented machines, and kept them going, to earn money, and to make things cheaply. But now I perceive that there is a great deal more to be done; and if ever I grow up to be a man, and have to manage any great works, I hope I shall be as good to my workmen as Mr. Watson is. I will be as just and steady too if I can. But, father [*sic.*], I

see it is not so very easy to be just, as I should have thought it was. There is a great deal to be considered, as I find from all you say about forgiving or not forgiving the drunken man for his wife's sake. I feel that I have much more than I knew of before to learn." (2:69)

Acknowledging *three* times his new awareness of a significant gap in his education, Harry implicitly reiterates his desire to master himself in order to one day master other men in a world where domestic sovereignty collapses the boundaries between science, family, and industry.

To reinforce the permeability of these arenas, Edgeworth next moves Harry to the Watson home, where a peculiarly potent combination of science and domesticity shape the lad's ambitions for the future. As Lucy attempts to explain to her brother what Miss Watson has taught her about making sugar-candy, the siblings turn to Jane Marcet's vastly popular *Conversations on Chemistry* (first published in London and in the United States in 1806) to understand more clearly the meanings of *crystal* and *crystallization*.¹⁴ Harry takes the book "to a comfortable nook in the room, where he [can] be quiet, and, after his slow but sure manner, he [makes] himself understand thoroughly what he [is] reading" (2:60). Nestled in a cozy, familial environment (where contemporary readers were doubtless considered to be as well), Harry solidifies his understanding of crystals with a text that showcases chemistry through intimate conversation between mother and daughters. The lad's approach to the subject—through Lucy's representation of her discussion with Miss Watson, his own conversation with his sister, and Marcet's familial dialogue—emphasizes, indeed insists upon, a feminine and domestic discourse that

legitimizes female scientific activity and activates scientific awareness, understanding, and socialization. Indeed, with a book and a nook, Harry's hooked. That he and Lucy then engage their mother in a conversation to test their newfound scientific knowledge speaks to the efficacy of this pedagogical method and, moreover, to the vital activity that such reading induces. Although the children have not done a chemical experiment, they have illustrated that vibrant science encompasses far more than lone tinkering in a gloomy attic: it spurs and requires direct social contact, intellectual conversation, and factual debate, all of which can stem from learned reading as well as from experimentation. Far from being a passive pastime that replaces active experience, as Greg Myers alleges ("Science for Women and Children" 179), scientific reading itself, and the dialogues on which that reading is based, proves to be an industrious, evocative enterprise. Indeed, Harry's brief exposure to it, on top of his experiences with the factory workers' domestic lives, causes him to reconsider his expectations about the *emotional* ontological purpose science should have in his life. After all, science brings a great deal of joy to his parents' marriage, as well as to his relationship with Lucy; it also, he learns, mediates Miss Watson's relationship with her father. The young lady "had become particularly fond of this study [chemistry], because her father was a chemist, and she had often been in his laboratory while he was at work" (2:63-64). Of all the questions that Harry could ask her about this avocation, the one he finds most pressing is whether or not she is "'happier than if [she] had not this pursuit.'" With this question, and Miss Watson's answer that she is indeed "much happier for having this taste, and this occupation," Edgeworth signals a sea change in Harry's ontological progress. When next Harry enunciates his thoughts about science, he reveals that he is now "anxious to

become a chemist” and “ha[s] been struck with the idea of the *happiness* of the person, who possesse[s] a laboratory, and [can] try chemical experiments” (2:74-75; my emphasis). This interest in personal emotional fulfillment, sparked by a deep engagement in domestically oriented science, may initially appear out of character for the normally reticent, mechanics-obsessed boy. Yet the grief and penury he witnesses in the laborers’ domestic lives, juxtaposed with the intellectual and emotional satisfactions he and the Watsons enjoy in their privileged families, awaken Harry to matters he previously took for granted. To be as happy as his parents or Mr. and Miss Watson, and to equip himself for a future as a scientist and a manager of men, he needs an occupation that masterfully and felicitously blends science, industry, and domesticity. Chemistry aptly fits this requirement. Moreover, Harry’s route to chemistry is particularly engaging because it links him with the great nineteenth-century chemist and physicist Michael Faraday (1791-1867), who made several vital discoveries in the fields of electricity and magnetism. As an eighteen-year-old apprentice bookbinder in 1810, Faraday, like Harry, read Marcet’s *Conversations on Chemistry*, a signal event that introduced him to electrochemistry, changed him from “an ardent student of electricity” to a passionate “student chemist,” and led him to collaborate with premier chemist Sir Humphry Davy (Williams, 19, 20). Thus through Marcet’s catalyzing example, chemistry emerges in *Harry and Lucy* as an energizing avocation with “useful and domestic purposes” far beyond those Edgeworth initially asserted in *Letters for Literary Ladies* (1795). While “the pleasure of the pursuit” in the late eighteenth century continues in the 1820s to be “a sufficient reward for the labour” for young women like Miss Watson (Edgeworth, *Letters* 66), for young men like Harry, chemistry promises to occupy a broader domestic plane.

In a laboratory that signifies scientific space as it mimics the intimate confines and pleasurable relationships available in the home—the coalescing worlds of science and family in miniature—experimentation presents itself as the happy venue for mastering and expanding scientific and national boundaries.

That race also falls under science's imperial purview is made abundantly clear during the family's stay in Clifton, a town outside Bristol's bustling port. Previously, the text alludes to this vexed topic only once. Upon leaving Staffordshire, Lucy receives a parting gift, a cameo made of Wedgwood's revolutionary jasper ware; "black on a white ground," it represents "a negro in chains, kneeling with his hands raised, in a supplicating manner, with this motto engraved, 'Am I not a man and a brother?'" (1:257-58). In 1787, longtime Etruria craftsman William Hackwood modeled this famous cameo for Wedgwood from the seal of the Society for the Abolition of the Slave Trade (Copeland 18). To support the cause and the society, which he founded with Thomas Clarkson, Granville Sharp, and several other staunch abolitionists on 22 May of that year, Wedgwood dispersed thousands of these cameos across Britain and the United States, where they rapidly became a popular fashion item among the ladies (Clarkson 1:451, 2:191-92; Sypher 17). The medallion thus makes a peculiarly apt souvenir of Wedgwood's artistic taste, scientific acumen, industrial finesse, and philanthropic fervor. Doubtless Lucy is supposed to appreciate as well the image's gendered association with feminine accessories and sentimentalized subordinacy. What makes this moment extraordinary, however, is Edgeworth's scant exposition on a topic and an image indelibly etched in British transatlantic culture, especially with the wave of campaigns against colonial slavery being mounted in the early 1820s. (For instance, the influential

Society for the Mitigation and Gradual Abolition of Slavery throughout the British Dominions, a.k.a., the Anti-Slavery Society, was established in 1823 [Coupland 112-50, especially 112-22; Craton 271-75; Walvin, *England* 146-60.]) Apparently content to think the cameo sufficiently well-known to warrant no in-depth explanation, she merely notes, “No doubt considerable effect was produced by ‘—“the poor fettered slave, on bended knee, / From Britain’s sons imploring to be free”’” (*HLC* 2:258). Here Edgeworth typically misquotes¹⁵ a couplet from Erasmus Darwin’s *Botanic Garden* (1788-1791)¹⁶ as her prefatory syntax summarily dismisses the topic and its enormous cultural resonance. It’s an odd tone and a strange textual omission from the author of *Belinda* (1801), “The Grateful Negro” (1804), and, more particularly, “The Freed Negro,” a poem printed in the April 1822 issue of *La Belle Assemblée; Being Bell’s Court and Fashionable Magazine*.¹⁷ All three texts are haunted with a Western distrust of obeah, or obi, an African-derived form of sorcery practiced in the West Indies (Dresser, *Slavery Obscured* 183). Yet the poem, published in a periodical fifteen years after England’s legal cessation of the slave trade in 1807, deliberately conjures the dreaded specter of obeah and its practitioners to transmute its alien power into the generative force of British nationalism.

Freedom! Freedom! Happy sound,
 Magic land is British ground;
 Touch it slave, and slave be free,
 ‘Tis the land of liberty.

Indian *Obee’s* wicked art,
 Sicken slow poor negro’s heart;
 English *Obee* makes the slave
 Twice be young, and twice be brave.

Quick the magic, strong the pow’r—
 See man changing in an hour!

For the day that makes him free,
Double worth that man shall be.

Massa! grateful *quaco* do
Twice the work of slave for you;
Fight for Massa twice as long,
Love for Massa twice as strong. (128)

Here Edgeworth carries well into the nineteenth century the long-held mythology that slaves become free upon touching British soil or, indeed, breathing England's pure air. Contradictory legal decisions dating back to 1569 alternately decreed and denied this argument. In the widely misinterpreted Somerset case of 1772, Judge Mansfield declared merely that a slave owner could not force a slave to leave England, a position that Lord Stowell countered in the 1827 *Grace Jones* appeal. Averring that he would not countenance "the public inconvenience that might follow from an established opinion that negroes became totally free in consequence of a voyage to *England*," Stowell rejected the defendant's argument that she had been illegally compelled to leave England for Antigua (Fryer 113-32, qtd. in Fryer 131). This legal imbroglio allows Edgeworth to present what best suits her purposes—transforming Britain into free space by the magic of authorial writ and racial dominance just as the nation draws on its immense authoritative "pow'r" to metamorphose a slave into a superman. Quaco, of course, is Wednesday's child (Quaco being the West African male name for Wednesday); that he acquires with his doubled reserves of youth and courage a workload that Saturday's child wouldn't dream of enduring only naturalizes what the Western rhyme dictates his fate will be: "full of woe." Nonetheless Quaco gratefully claims the citizen's right to love, labor, and fight for his country. In so doing he transfers his loyalty from West Indian obeah to Britain—Massa, or The Man, writ large—and extends his obeisance to the same

imperial power that, ironically, transformed him into a slave through a legal hocus-pocus similar to the magic script used to “free” him. Whether Edgeworth was alert to ironies such as this one is unclear. The poem’s relentlessly happy tone, chanting rhythm, and vernacular speech forms orchestrate and reinforce a resolution so favorable to the white status quo that I interpret from them Edgeworth’s need to engage in a face-saving racial masquerade. Shifting blame for colonial slavery’s deadly touch to the “*Obee’s*” life-draining influence allows Edgeworth to reconfigure Britain into a benevolent, progressive homeland that revivifies the Negro and secures his acquiescence to the growing needs of an understaffed, industrializing economic system. Edgeworth thus endows the “magic” kingdom with the powers of a Frankenstein, who scientifically reanimates those without independent life to further his own visions of mastery and immortality. The supplicant black in the cameo becomes in these visions a Negro “freed” from his African legacy to touch an electrifying future, rife with hidden dangers, that beckons from an insistently white, scientifically oriented, imperialistic horizon.

Edgeworth’s move to obscure Britain’s complicity in colonial slavery’s lethal legacy also reveals itself in *Harry and Lucy Concluded*. Abolition was never her cause,¹⁸ so her brief allusion to it via Wedgwood’s cameo and Darwin’s couplet serves primarily as an affectionate nod toward dear family friends and their famous cultural contributions, which blend felicitously with the family’s visit to the Staffordshire potteries. Once Edgeworth writes about Harry and Lucy’s adventures in Bristol, however, things get a bit stickier, particularly when the topic is sugar. Bristol boomed in the seventeenth and eighteenth centuries through the “triangle trade in British manufactures, slaves, and sugar.” Sugar refining quickly grew into a crucial industry here, where it underwrote the

establishment of “several of the pioneer banks in the city” and thereby aided merchants in their continual quest for textiles, cloth, and weaponry to feed the voracious maw of slave-oriented commerce (Sheridan 479, 477). West Indian sugar cane was a well-known economic kingpin, but it secured its status as luxury and then as necessity through torturous slave labor (Mintz 19-150). Although the enslaved speaker in William Cowper’s popular poem “The Negro’s Complaint” (1788) challenges white folks to consider this fact—“Think how many backs have smarted, / For the sweets your cane affords!” (st. 3, ll. 23-24)—Edgeworth resolutely avoids it during Harry and Lucy’s lessons about sugar growth, manufacture, and refining. The economic viability and scientific mastery signified in Bristol’s sugar refineries take precedence in the children’s nationalistic education and therefore figure prominently in the points of interest that Father introduces.

“In the port of Bristol we shall see ships from the West Indies unloading their cargoes of sugar; and on board of these ships, if we are fortunate, we shall find some stems of the sugar cane. In the manufactories here we shall meet with the apparatus required for making sugar, which apparatus is to be exported to the West Indies: here too are extensive refining houses, where they extract from brown sugar that pure white substance, that you see every morning on the breakfast table. Let us walk at once to Bristol, and try to satisfy our curiosity.” (2:88-89)

No people sully this technological checklist. Personified ships unload “their” cargoes, while the factories provide apparatus, not human beings, for the children to “meet with” as commercial and industrial processes take center stage. The result of these processes, “that pure white substance” that magically appears on the family table, is as void of suspect human contact as are the processes in Father’s portrayal. Even Father’s description of processed sugar subtly directs attention to its manufacture. With the deictic “that” Father exhorts the children and the readers to visualize the familiar sight of white table sugar, an image then doubly reinforced with the redundant reminder that this sugar is “pure white.” Thus emphasized the whiteness connotes the fineness and purity of the sugar (Mintz 22) as well as of the commercial and scientific processes that make it so admirable. With slave labor neatly erased from Bristol’s industries, whiteness itself, both as color and as racialized national genius, appears uniquely responsible for sugar’s pleasing place in British life.

This narrow nationalistic perspective gains ground even when Edgeworth admits to the black labor force that staffs the West Indian sugar plantations. As Lucy recounts for her father and brother what she remembers about Jamaican sugar production, she includes in her rendering the presence of black workers: “The canes are cut in autumn, and the sugar-making time is a season of gladness and festivity to man and beast, especially to the poor negroes, who work in the plantations.” Yet immediately thereafter Edgeworth writes, “Here Lucy was near going off, *far away from the sugar-making*, to talk of the poor negroes, but her father called her back again, by the question of ‘What is to be done to the sugar canes after they are cut?’” (2:89; my emphasis). The fantasy created by these quotations’ densely layered cultural and racial misprisions leaps into

focus when compared with John Aikin's description of sugar making in a contemporaneous British children's text. *The Farm-Yard Journal: For the Amusement and Instruction of Children* (Cooperstown, [NY]: Printed and sold by H. & E. Phinney, 1819) addresses the topic of sugar as follows:

Sugar, both hard and soft, is made from a kind of reed or cane called sugar cane, which grows in many parts of the West-Indies, and in other hot countries. It grows five or six feet high, which is as tall as most men are. When the canes are ripe, they are cut down and carried to a kind of mill, where they are pressed and broken between two rollers, which squeeze out the juice, and this is boiled with alum and lime and becomes coarse sugar. All this work is done by the poor blacks, who are bought and sold as if they were sheep, or horses or oxen. Many of them are very cruelly used by savage masters, and brutal drivers who treat them worse than beasts of burden. (29-30)

Both Edgeworth and Aikin use the passive voice to describe the steps involved in harvesting sugar cane, but only Aikin deliberately and emphatically asserts afterwards the blacks' agency in this laborious process, as well as the dehumanizing treatment that slaves suffer because of racial subjugation. Edgeworth, on the other hand, writes merely that the Negroes "work in the plantations," a phrase that implies nebulous significance by its sheer lack of specificity. Tacked to the end of the sentence and separated typographically from the line "The canes are cut in autumn," this phrase connotes as well

a physical dissociation between slaves and sugar that Edgeworth further encourages when she states, without a trace of irony, that Lucy's "talk of the poor negroes" is "far away from the sugar-making." With sugar and slaves represented as mutually exclusive, Edgeworth can sprinkle a little fairy dust on "the sugar-making time," transforming the slaves' searing, suffocating, ceaseless labor between January and June into an autumnal thanksgiving (Dunn 190-200; Walvin, *Black Ivory* 93-98 and *Fruits of Empire* 125-28). Curiously, however, Edgeworth, like Aikin, refers to the Negroes as "poor." Twice she uses the phrase "the poor negroes," a sentimentalized sign of soft-spoken, genteel humanitarianism that both clashes with and points to the need for the felicitous ideal she is constructing. The phrase thus hints at a seething tension between Edgeworth's happy scientific realm and the dire human costs necessary to sustain that world. It functions as a dissonant hiccup that belies her carefully vague portrayal of plantation labor as it registers Lucy's sympathy for the unspeakable problems the Negroes endure. Despite the care with which Edgeworth constructs an ideal England contained and made marvelous by industrial science, she subtly records how easily racial irruption can displace this glossy image.

Indeed, in the text's final direct references to black labor, Edgeworth establishes a firmer relationship between Negroes and sugar only to reassert the mastery of science. Harry, Lucy, and Father arrive at Bristol's "Wet Docks" to watch the seamen offload Caribbean sugar. "They distinguished the ships arrived from the West Indies by the hogsheads of sugar that the crews were hoisting out, and by the black sailors whom they saw on board. On the decks of these vessels they observed some of the sailors and boys sucking some pieces of the sugar cane on account of their sweetness" (*HLC* 2:91). Here

hogsheads, black sailors, and West Indies ships form their own triangle around sugar; as the sailors eat it and the crews deliver it for further refining, they embody in microcosm the Western addiction to sugar consumption and production as they make material the black presence in this exchange.

Consumption and production again structure the topic of sugar and Negroes when the family assembles at breakfast the next morning. Eating a meal both sweetened and adorned by “that pure white substance” seen “every morning on the breakfast table,” Father and children discuss once more the process of sugar making. When Father details how overheating destroys precipitate sugar in cane juice, brother and sister find the information distressing: “Harry and Lucy were sorry to learn that so much of the sugar, raised by the hard toil of the poor negro, was spoilt, and expressed their hopes that some remedy might be devised for the evil” (2:93). For the first time Edgeworth acknowledges that rigorous black labor is responsible for the cane crops. Simultaneously, however, she embeds that agency in the emotionally coded phrase “the poor negro,” a rhetorical move that shifts attention from the black as commander of cane to the black as needy subordinate. Edgeworth then controls the racial irruption that this phrase admits by refocusing attention *not* on the Negroes’ inexpressible predicaments but, instead, on the problems attending sugar production. The moral “evil” therefore is not the egregious loss of life and liberty within slavery’s confines but the loss of “so much sugar” in the refining process.

A day at the Bristol sugar refineries then reveals precisely how the mastery of science comes to the empire’s rescue. Improvements in industrial science have created a “new process of refining” that yields much more granular sugar than did older methods.

“The master of the sugar house” tells the family that “a prodigious quantity of sugar”—“eight pounds of sugar” per “hundred weight”—is “saved by adopting the new process” (2:107). That this discovery “‘has arisen, not from mere lucky accident, but from judiciously combining sound scientific principles with accurate observation’” only confirms that science and its practitioners deserve national approbation for preserving so much sweet economic and cultural capital (2:95). Indeed, Harry and the readers spend their last moments in the sugar refinery “mak[ing] a calculation of what that [eight pounds per hundred weight] amount[s] to every year upon the total quantity of sugar refined in Great Britain” (2:108). The mastery of science here proves a measurable moral regulator that far outweighs slavery’s impact on the children and the reading audience.

Edgeworth even underscores science’s hold over slavery through the two images that bookend her discussion of sugar production: the abolitionist cameo, described earlier, and a sugar bowl that the family sees at the sugar refinery. Both are Wedgwood pieces and so signify an intimate connection to British industrial science and to the art that industrial science makes possible. Yet the bowl conveys as well a proprietary aesthetic that the first one lacks, an emblematic message that science and sugar have displaced slavery and the Negro as representations of British largesse. Displayed “in a black Wedgwood-ware basin, which showed its whiteness,” the sugar signifies a pure British genius made accessible to everyone in an easily digestible form (2:107). To see it and to eat from it is to experience progress without pain, for the bowl reflects not the labor of slaves but the pride of production. Through sugar, science has indeed mastered, contained, and upstaged the irksome presence of slavery that the Wedgwood cameo was made to protest. No longer is the black laborer in the fore of British consciousness, as the

cameo's black-on-white color scheme suggests. Instead sugar rivets national attention as a familiar and comforting symbol of progressive British production and consumption.

* * * * *

Up to this point Edgeworth has expended a great deal of energy depicting a happily prosperous world in which science claims dominion over and reasserts hierarchy within gender, class, and race relations. Yet palpable tensions arise from this industrializing England, perhaps nowhere more so than within Harry and Lucy. As the children bounce from one educational endeavor to another, they are both joyful and ambivalent about their individual relationships with science. Lucy worries about felicitously blending femininity and natural philosophy, while Harry struggles with mastering himself, as well as scientific principles and technological design. The two thus exude a simmering stress level that belies and complicates their seemingly safe activities. In short, the siblings *cope* rather than blithely exist, which gives their characters depth and dimension as well as registers a contemporary concern with the personal costs and implications of scientific progress. Moreover, these tensions, while relatively contained in the narrative's first half, explode within the remainder of *Harry and Lucy Concluded* in key scenes that expose the children—but more particularly, Harry—to mortal danger through potential or actual infernos aboard a steamboat, inside a Gothic castle, and within a burning cottage. These scenes are vital, for they structurally and thematically interrogate the risks and consequences of scientific endeavor and eventuate in Harry's more mature and humane grasp of the social contract.

The Bristol steamboat episode provides an interesting case in point, for its oscillations between fear and delight initially appear, on casual reading, at least, to come to rest primarily on the side of pleasurable safety. While aboard, Harry happily absorbs a conversation among several gentlemen—an Irishman, an Englishman, an American, and Father—who debate with the Scottish steamboat captain which of “their several nations” can boast the “honour of bringing into general use the invention of the steam vessel,” and who discuss “the great advantages to commerce and to society from this quick communication between distant countries” (2:146, 151). Flush with historical and mechanical particulars, the boy cannot help exclaiming his admiration for this transatlantic “‘grand invention’” (2:151). The gentlemen’s discourse, an intellectual merry-go-round for Harry, finds it kinesthetic equivalent for him in the steamboat’s ability to clip along the water at eight and a half miles per hour. “Gliding rapidly on between high hills and rocks,” with “the lofty crescents, terraces, and hanging gardens of Clifton,¹⁹ seem[ing] to fly back as they passed,” Harry feels “afraid that they [are] going too swiftly, and that his pleasure would too soon be at an end” (2:145). He’s a kid on his century’s version of an amusement park ride, and he likes the sensation. Between the intellectual and the kinesthetic rush, Harry and the audience are easily seduced into regarding the steamboat a technological wonder.

Yet this pleasure cruise cannot quite erase the peculiar sense of danger that haunts the episode from its very onset. Amid the hustle and bustle of activity on the pier, Edgeworth creates a crisis by situating among the crowd a crusty old sailor who loudly warns the steamboat passengers about the enormous risks involved in their imminent journey. His rants about death and dismemberment severely distress a sickly child and

her mother, who must travel the quickest way possible to Ireland to care for a dying parent. Edgeworth's simple, straightforward tone here attempts to contain the mental and emotional alarm sure to erupt from the characters and the audience at the first mention of bursting boilers, scalded corpses, and flying body parts. Indeed, the young girl grows hysterical and refuses to board the steamboat until Harry, sympathizing with the mother's plight, reassures the youngster and then accompanies the two aboard ship, as well as under way for a brief time. Harry's gentle talk with the child here also parallels Father's earlier assurance to the mother that she could travel "with perfect safety" on the vessel (2:142). Yet that very phrase, ironically, sustains the tension that Edgeworth is trying to contain. That Father, so quick to correct his children for inappropriate word choice, should use an adjective as extreme and exact as *perfect* is more than a trifle disconcerting. Nothing is perfect in his nineteenth-century world, and he knows it. For instance, when Harry claims ten pages later that the steamboat has been "'brought to perfection,'" Father retorts, "'Harry, that is saying too much,'" a sentiment echoed by the Scottish steam captain, who states, "'As we know even at present, there is much more to be done for these steam vessels'" (2:152). Father's statement about perfect safety is thus immediately suspect, despite Edgeworth's tonal forthrightness, for the character is contradicting his own characteristic exactness; that dissonance, added to the sailor's and the female passengers' anxieties, infuses the atmosphere and mixes uneasily with the reverie produced by Harry's adventures.

Edgeworth attempts to defuse the danger that the old sailor ignites through a negative portrayal of his class status, which begins with his first words. Provoked by a steamboat hand to defend traditional sailing ships, the old-timer *swears*, a point the

author is quick to editorialize: “Yes, I am sorry to say he did swear.” The man continues this shockingly low behavior by claiming that “he would not go on board a steam-boat for both the Indies, and a puncheon of rum into the bargain” (2:140). This mention of large amounts of alcohol points to another negative characteristic culturally assigned to the working class (Zieger; Hall Clark).²⁰ Moreover, any authority granted him by his advanced age and its attendant knowledge and experience seems to vaporize, for his opinion clashes with that of the scientific gentleman. Father’s calm and reasonable demeanor, as opposed to the sailor’s vivid invective, both highlights and reinforces the reliability that Father’s upper-class status affords him. That other gentlemen on the dock agree with Father’s opinion only bolsters his credibility. In comparison the sailor’s concerns appear but “a tale / Told by an idiot, full of sound and fury, / Signifying nothing” (Shakespeare, *Macbeth* V.v.26-28). Furthermore, the man comes off as something of a bully, preying on the delicate sensibilities of the so-called weaker sex, whose timidity and hysteria confirm their need for Harry and Father’s benevolent guidance. That he picks on an anxious mother and her child, instead of someone his own gender and size, also marks him as a coward, the lowest of the low. The workingman’s class, coupled with the spectacle that he creates, reveals that he is irrational, untrustworthy, a symbol of ignorance unwilling to open itself to the wonders of progress. Edgeworth’s character sketch would have us believe that he, and not the steamboat, is the real danger here.

And he is, in the sense that his concerns mirror a contemporary fear of technology that Edgeworth cannot deny, for she registers it in the signs of change that she depicts on the pier’s waterscape. Buried in a page-long description of the steamboat’s pre-departure

activities lies an important observation: “It appeared as if there were fewer sailors on board than in the other vessels” (*HLC* 2:139). Fewer hands on a new ship translate into fewer job opportunities in the future, especially if the steamboat draws business away from traditional sailing packets. Indeed, the anxious mother is traveling by steam because “it [is] the cheapest and the quickest way she could go to her mother.” The vessel’s advantageous price and speed, deeply enhanced by the emotional appeal of reuniting a worried woman and her mother—who, “lying dangerously ill, in Dublin,” may die before her daughter can reach her if she *doesn’t* travel by steam (2:142)—felicitously promotes technology’s ability to conquer time, space, and money while it knits together a family fractured by distance and disease. And that the older woman lies *dangerously* ill only escalates the tension. In this moment the steamboat signifies not only a profound union between domestic and scientific realms that traditional methods of transportation no longer can touch; it also acts as a harbinger of healing, a therapeutic means of dissipating the emotional and physical stress that illness signifies and provokes. Given this heroic status, steam trumps the sail on multiple levels. Understandably, then, the sailor probably fears obsolescence, which clearly looms on this literary horizon, as heavy and as ominous as the look on the man’s “darkened brow” (2:140). The steamboat thus represents a definite threat to the old-timer’s financial livelihood, which he registers and acts upon by treating the vessel as his nemesis. Because his fears and corresponding behavior do not jibe with the text’s supreme scientific vista, however, Edgeworth displaces the sailor’s anxiety onto his class standing and concentrates instead on memorializing the historic efforts of her family’s beloved friends, Matthew Boulton and James Watt, whose scientific and technological acumen greatly advanced the steam

engine. Indeed, later in the story Edgeworth reproduces a portion of Walter Scott's sweeping paean to Watt, which Scott wrote in the "Answer" to the introductory epistle of his novel *The Monastery* (1820). Through this excerpt, which Father reads aloud, Harry, Lucy, and readers learn that

This potent commander of the elements—this abridger of time and space—this magician, whose cloudy machinery has produced a change on the world, the effects of which, extraordinary as they are, are perhaps only now beginning to be felt—was not only the most profound man of science, the most successful combiner of powers and calculator of numbers as adapted to practical purposes,—was not only one of the most generally well-informed,—but one of the best and kindest of human beings. (Scott 29-30; see Edgeworth 2:169-70)²¹

Scott's rhetoric paints a portrait of intellectual and moral nobility in action, a supreme Grand Old Man of Science. Compared with this national treasure, the sailor appears absurd, irritating. His behavior fits so well with stereotypes of ignorant, working-class rabble-rousers that Edgeworth need not tell her audience that he is unreliable; his concerns about technology, negligible. In the narrative it literally goes without saying that fear of obsolescence, and the technology that causes it, is unmentionable, for it is the province of fools.

Edgeworth further attempts to downplay the danger of steam nearly twenty pages after the sailor introduces the notion of steamboat accidents. Safe in a carriage on land,

Father finally explains to Harry and the readers some key factors that formerly caused boilers to burst aboard ship. These brief explanations, however, appear within a longer discussion concerning redesigning the vessels for long-distance travel. That, combined with Father's dismissal of the sailor's concerns—"“He was wrong,’ said Harry’s father; ‘because he exaggerated’” (2:159)—renders the fumes of danger invisible; but they are still detectable in Father's lesson on the ways science and technology were used to take preventative measures aboard ship. Preventative measures are not necessary unless there is risk. While Father's subtext is that traveling on a steamboat is, to him, an acceptable risk, his need to highlight safety precautions and his denial of *alternate* definitions of danger and risk—like obsolescence and penury for the sailor—spell out yet another subtext: the unspeakable dangers of class warfare in the quest for empire.

Years away from dealing with that particular problem, Harry nonetheless shows in this episode a need for interpersonal development, for he has yet to understand that his investment in the social contract necessitates experiencing and working through painful emotions in order for him to relate more easily to other people. Before he disembarks, the worried mother thanks the boy for all his help with her daughter. “Pleased, yet ashamed to have this said to him, in the hearing of several people who [are] standing by,” he immediately “colour[s] up to the ears, and answer[s] in a blunt manner, and in a rude tone” that he ““did nothing at all”” (2:153-54). He also rejects the child's prized coconut, which she begs him to take.²² When she “look[s] vexed by his refusal,” he takes the coconut from her, rolls it along the deck, and prompts her to go fetch it, much as one would a dog (2:154). He then flees the scene by jumping from the steamboat onto the shore, where Father is waiting for him. Harry's refusal is important here, for it conveys

more than the awkward etiquette and seesawing emotions of an adolescent uncertain about how to behave; it symbolizes a distancing of self from others, despite his generosity in aiding the girl and her mother earlier. That he cannot accept an adult's thank-you may be understandable at his age; but that he will not accept a *child's* heartfelt gift makes me wonder about his deeper ability to become a scientist whose empathic connection with humanity prompts him to work for the greater good. Harry's intellectual skills are progressing, but his grasp of the Rousseauian social contract is still weak.

Father subtly points out Harry's weakness when his son confesses to Lucy that he acted badly toward the mother and child aboard the steamboat. "Yes, Harry, you are right to be ashamed," Father states. "I was ashamed for you." In a text in which the parents never speak crossly to their children, or to anyone, Father's reproach is elevated to the level of verbal punishment and prompts this elaborate—for Harry—exposition on his emotional landscape:

"When that kind of feeling comes over me, it is so disagreeable that I do not know what I am doing or saying. And I am angry with myself, and with the people who speak to me, and with every body. But the pain of reproaching myself afterwards with having been ill-natured is worse still, as I feel now, and I shall remember this, and I will try and conquer myself next time." (2:164)

Harry's danger is his own bad self, for his painful emotions control him.

Understandably, then, his approach to self-mastery here is cognitive; his memory will recapture shame's sensations and confound inappropriate behavior. But Harry's

experience with real pain is relatively slight and fleeting, however agonizing it is in the moment. Not until he understands suffering on a more intimate level will he be better equipped to dispel the danger that disagreeable feelings now represent in his life.

The steamboat episode thus brings to the fore a potent sense of danger on several levels. The sailor voices a disguised fear of technology's ability to make him obsolete, a fear that finds its echo in the female passengers' anxiety about steam's safety. Father's educated explanations on this subject then stoke readers' latent worries, for they are placed at a peculiar point in the text—at the end of the episode, when father and son can luxuriate in a carriage rolling along firm ground. It's awfully convenient, not to mention a trifle weird, to wax happily about steam's reliability when the ship is nowhere to be seen. Indeed, this structural removal from the immediacy of the steamboat scene creates a strange dissonance that parallels Father's earlier insistence that blacks have nothing to do with sugar cane. Here, it would seem, steamboats have nothing to do with danger. But that's wrong, and we know it, in part because Father's repeated statements about steam's safety measures read much like a minister's exhortations not to sin. Danger, like sin, is everywhere, and must be contained. But containment is difficult, which the sailor, the female passengers, and Father attests, a phenomenon that in and of itself only heightens the narrative tension by a turn of the screw.

The text then takes a demonstrably Gothic turn as the children's visit to Sir Rupert Digby's castle ushers in a twilight world shivering with portent. At first the place seems rather benign. Father and Mother introduce Harry and Lucy to the correct terms for the castle's various architectural elements, which the text italicizes for pedagogical clarity. Yet the italics—rarely used previously in the text—subtly underscore a sense of mystery

that the architecture evokes. The towers, turrets, spires, minarets, and mullioned windows are Gothic, which adds an inchoate intensity to the estate's atmosphere. And the more deeply Harry and Lucy explore this site, the more charged it becomes. From its "massive gateway, under the spreading arms and meeting branches of fine ancient oaks" and "great deep dark archway entrance" to its portcullis and arrow loops, the Gothic castle is a literal fortress, designed and built for danger (3:22, 23). And danger's accoutrements are everywhere. Leather buckets for fire stud the walls of the Great Hall. The armory bristles with bows, arrows, lances, guns, and suits of armor. There's even a forbidden door made of iron—shades of Bluebeard's Castle. While the children eventually learn that the iron door opens Digby's laboratory, the lab itself introduces another element of risk. Originally created as "a place of safety for paper, or money" and barred with an iron door—"the strongest for defence, and the best security in case of fire"—the space now houses "things which might be dangerous if incautiously meddled with" (3:54, 55). *Safety, defence, security, fire, dangerous*: over and over again, both children and readers are assaulted with references to hazard and threat, to susceptibility and insecurity—and this, in a great heap of stone! Digby's Castle is literally and figuratively a pile of potential peril. The tension continues to grow as the children lose themselves among the building's numerous twisting corridors and steep staircases. When an eerie wail punctures the silence, it adds yet another element to the string of Gothic conventions that saturate this episode. At this point, however, Edgeworth attempts to dispel the palpable aura she's created by pulling out another Gothic convention: unmasking the human or natural causes behind such mysteries. Thus the weird noise is but the confluence of a servant's voice and the castle's acoustics. And the hallways and

stairs are formidable only to those unfamiliar with them; frequent traverse dissipates the illusion. By reasserting humanity's cognitive control over an environment eminently understandable through scientific principles and keen observation, Edgeworth supports the Enlightenment ideal of rational empiricism and sends sensibility to the dustbin.

Yet Digby's Castle still maintains a disruptive emotional atmosphere. In this period before the onset of scientific "common" sense, few people had intimate knowledge of and experience with chemical experimentation, much less laboratories outfitted with combustible substances or, for that matter, the castles of the very rich. The potential mysteries of and hazards within Digby's home and laboratory are very real and thus evoke an ongoing tension between pragmatism—putting strange chemicals and machinery securely behind an iron door—and fear—symbolized, for example, by the literally unmentionable "things" that Digby must contain because they can cause harm and because his laboratory and his workshop *are* part of his home. His close attention to safety here parallels Father's concerning the steamboat; the precautions themselves intimate danger's presence *and* prevalence. Digby's domestic enclave is thus peculiarly embattled; as a literal fortress it stands guard against intruders, none of which poses greater threats than the scientific chemicals and apparatus within its own walls.

As the castle stands a sentinel on the landscape, a material and atmospheric memorial to danger anticipated, it subtly symbolizes as well a tie to Harry and his evolution into a socially conscious scientist. The clue to the meaning it represents lies in the leather buckets in the Great Hall. Digby explains to the children that the buckets are there in case the roof catches fire—originally, from the mass of marauders storming the castle with flaming arrows of pitch. This information teaches the children about fire

prevention, and the characters move on to other subjects. No one would think any further about it unless two other details pop into mind as well: one, the new roof that Harry designs for Dame Peyton's cottage (she's a tenant on Digby's estate); and two, the fire that later ruins this new roof. Combined, the potential danger of a burning roof in the Gothic castle, plus the conflagration of Harry's cottage roof, spark a fiery trail connecting Edgeworth's use of Gothic conventions, Harry's ontological and epistemological progress, and the frissons of fear about science and technology rising from the text like vapors of smoke.

The Gothic figurative parallel between the human head/brain and the top of a house (in this case, a roof) suggests that a burning roof and the consequences thereof will symbolize a great deal about Harry's cognitive maturation. Recall that earlier in the text, Harry had puzzled out math equations in his "dark attics" back home in the tree, content to nestle safely and sedately in his own intellectual sphere instead of engaging in the more imaginative antics of his sister Lucy. Edgeworth continues the Gothic symbolism of these "dark attics" within Harry's dream about a famous scientist in an attic laboratory. That the dream ends with Harry poised on the threshold of the laboratory and being bonked on the head with a steam engine signals the boy's need to break out of his self-preoccupation and open up to the world, which I *could* argue he does when he helps the hysterical child and her mother board the steamboat in Bristol. His response to the girl's generous gift, however, is so self-reflexive that it points up his need to experience a significant epistemological reorientation in order to understand and seek a more substantial connection to humanity. While designing a new roof for Dame Peyton's cottage is a very nice gesture, Harry does it not, primarily, for generosity's sake but for

the opportunity to flex his intellectual muscle and garner his father's approval. The destruction of Harry's successful roofing experiment, however, as well as the ontological and epistemological trauma that this Gothic destruction symbolizes and provokes, promises to provide the lad with a vital lesson in a more holistic approach to science, technology, and people.

The emotional dynamics swirling through the roof-fire episode immediately immerse the readers in an atmosphere increasingly fraught with fear and danger. Deep in the shadows of the twilight hours, Dame Peyton's young grandson first frightens Lucy with his sudden appearance and then compounds her anxiety by informing her that Harry has been "badly burned" rescuing the baby from the blazing Peyton cottage, and that Father has had to carry him to the house they've been vacationing in on Sir Digby's estate (3:224). She runs home as quickly as possible, only to be met with the information that the surgeon cannot come until the next morning, and that she can see her brother only if she can "command [her]self" (3:225). Edgeworth then vividly describes Harry's wounds from the frightened girl's perspective to enhance further the gravity of the situation: "When she heard groans from Harry, who bore pain so well, she knew he must suffer dreadfully: going nearer, she saw him lying on his side, the arm down to the elbow covered with huge white blisters, or in some places raw, and of a fiery red, his whole frame writhing about in agony!" (3:226). As if this scenario weren't grim enough, Edgeworth introduces yet another perilous situation. The concoction for Harry's burns, which Father and Mother are preparing at Harry's bedside, is itself a cause for concern. "Melting basilicon ointment, and mixing it with the oil of turpentine, in a small saucepan," Edgeworth writes, is "a process that require[s] great caution to prevent the

vapour of that very inflammable oil from taking fire” (3:227). The sickroom teems with angst. The parents’ grim determination to corral it is both laudable and ironic, for the two literally must fight fire with fire to save their child from further harm.²³ It’s an incredibly intense scene, for bodies, medicine, and emotion cannot confound the presence, prevalence, or price of combustibility.

Harry is suffering from second-degree burns that, on a symbolic level, endow him with several characteristics of the steamboat. His wounds, similar though less serious than those suffered by the aforementioned scalded victims of steamboat accidents, become the throbbing center of his life, much as the steam engine is the throbbing center of the steamboat. Both the burns and the engine propel the action of their respective vessels—the burns make Harry writhe; the engine powers the ship—and both require containing the danger that they represent. In Harry’s case, the burns must be treated quickly and correctly to stave off infection and possible amputation. He is not a precise human analogue of the steamboat, but the similarities are provocative. That flame can sear the youth, leaving him raw, oozing, and wracked with feverish pain, certainly makes it seem somewhat likely that the steamboat, too, can suffer a physical transgression; neither is invulnerable to human foibles or flaws. On this figurative plane, then, it appears that Edgeworth, very subtly, is registering the fear of technology by displacing it on Harry’s young body. Kids get banged up all the time, so it seems more believable for Harry to catch fire than for a steamboat. The burns on Harry’s arm, however, are also physical manifestations of the symbolic psychological trauma that the roof fire represents and sets in motion.

This trauma, manifested as a nervous shock, provides the catalyst for the epistemological and ontological transformation the youth needs. “Upon further examination, the surgeon discover[s] that Harry ha[s] received a severe strain, the consequences of which might, he [says], be very serious.” The prescription: Harry must “continue confined to an horizontal position for some time” in order to regain his health. Even to walk upright before “some weeks” have passed would be to hazard “a great risk” (3:231). Harry must be calm and prone, his body’s posture a symbol of suffering and acceptance. This prescribed alignment, however, presents a new opportunity for the lad. He is literally leveled so that, symbolically, he can find and redefine his ontological and epistemological balance. *Not* to do so is hazardous to his mental and physical health. Prohibited from exerting energy, Harry must make his mind the site of his experimentation. Here he faces a greater challenge than scaling the Heights of Abraham, for on this horizontal plane his body figuratively will be mimicking the stasis that long-term trials, or plateaus, represent in any full-fledged scientist’s or explorer’s career. After all, much of scientific life is spent mucking with monotony, not glorying in the dizzying heights of success. Harry’s figurative cognitive realignment is a necessary corrective in the youth’s maturation, for it will allow his consciousness to find the course he needs to tackle the challenges that his aspirations prompt.

Harry’s condition also carries with it significant Gothic overtones. While twenty-first-century readers might interpret “strain” as a physical and psychological trauma following severe injury, an early nineteenth-century audience also would read in it a very Gothic response to being seared with the sublime. The mere *presence* of an agent with the power to inflict pain or death—an apt summation of the blazing cottage—would

incite, according to Burke, a degree of terror and with it “an unnatural tension and certain violent emotions of the nerves” (134). Consider, then, how much more intense *transgressing the borders* of that agent would be, as Harry does when he jumps through a window to enter the burning building. Joseph Wright of Derby’s painting of a burning cottage, which the late Mitzi Myers suggests “may be the inspiration for the site of Harry’s heroism and injury” (“*Aufklärung*” 137n34), offers a stimulating visual aid to this notion. Wright’s oil on canvas entitled *Cottage on Fire* (c. 1787), in the holdings of The Minneapolis Institute of Arts in Minnesota, juxtaposes the fiery inferno of a peasant’s cottage with the crumbling ruins of an ancient castle. “This nocturnal scene features dramatic contrasts: the hot red light of the fire versus the cool white moonlight, the cottage abruptly consumed by flames as opposed to the slowly decaying castle” (“The Collection”). Heat, light, time, space, shadow coalesce in a near chiaroscuro, but the focal point is the seductive glare of the blazing thatched roof. Here, the human figures, rendered practically invisible through the play and grandeur of light and dark, are mere witnesses to inevitable change.²⁴ Harry’s active intervention in Edgeworth’s narrative, however, challenges this notion of inert human agency when confronted by danger of Gothic proportions. As Teresa Goddu asserts, the Gothic is “obsessed with transgressing boundaries”; it “registers its culture’s contradictions, presenting a distorted, not a disengaged, version of reality” (5, 3). Harry dares to brave the sublime that the fire represents because human life is worth the risk; so, readers could say, scientists and passengers alike brave the sublime signified by the steamboat because human life—its advancement, its comforts—is likewise worth the risk. Situating a heroic but wounded Harry amid the Gothic imagery in the cottage-fire scene, Edgeworth subtly registers the

risks inherent in transgressing the boundaries of safety to bring alive a disturbing but fluid world of possibility.

With this idea in mind, what becomes peculiar here is that a house fire, ultimately blamed on a cat, becomes Edgeworth's dominant representation of the sublime at this crucial point in the narrative. Harry has been exposed to a variety of potential infernos, from bursting boilers aboard a steamboat to chemical explosions in Sir Digby's laboratory. Yet the youth's most visceral and dangerous encounter occurs in a laboring family's cottage, a traditionally pastoral site in literature and landscape paintings. No one really knows how the fire started, but the most probable conclusion is that a stray spark from the hearth lit on the cat, which carried the spark to the cottage loft and unwittingly set the fire. Rather than explicitly implicate one of the Gothic machines that chews up the British landscape, Edgeworth chooses to shift the fear of machinery's untrustworthy nature onto the fallibility of mere chance. Further, she names as probable cause an animal deeply implicated in witchcraft and superstition, both traditional elements of the British peasantry's belief system. Worthy to note as well are the lack of safety measures in or around the Peyton cottage. Nearby streams, fire buckets, or other forms of fire management are conspicuously absent, a detail made particularly disturbing when remembering Sir Digby's provisions for his castle. Displaced and down-classed, danger again becomes the province of the intellectually unencumbered—from the aging sailor shaking his fist at progress to the simple cottagers leaving babies and homes unprotected. While burning buildings or common peasants are not distortions of reality—houses catch fire; populations harbor ignorance—Edgeworth's displacement onto them of technologically induced angst is. If nothing else, it is a safe and culturally acceptable

solution to the increasingly strange reality of the emerging industrial complex. And following the logic of this displacement, Harry is an understandable agent of safety, for he has the education, the leisure, and the motivation to increase his knowledge and skills to provide a better future for the very people he already aids.

For Harry to secure his own future, however, he needs to relax his rigid, self-reflexive gestalt and learn to appreciate the flexibility and fun that imagination can bring to conscious thought. Lucy helps him connect with this side of himself through his favorite activity—scientific experimentation.

Like early scientists who experimented on themselves, the siblings decide to use Harry as their primary site of investigation. Treating the recumbent lad as a control base, the two “try a great many experiments” in which a host of characteristics—among them, patience, endurance, fortitude, humility—are the variables tested and manipulated during Harry’s convalescence. For example, Lucy attempts to entertain her brother by reading him the choicest excerpts from a wide variety of texts, including *The Butterfly’s Ball, and the Grasshopper’s Feast* (London: J. Harris, 1807), *The Peacock “at Home”* (London: Printed for J. Harris, 1807), travel narratives, and scientific anecdotes from all over the world. In trying “to see whether he could be tired of plums”—Lucy’s term for her textual tidbits—the siblings learn that ““plums all day long will never do, let them be ever so sweet and well picked’” (*HLC* 3:238, 250-51), because too many good things evoke anxiety, fatigue, and disappointment. Over forty years later, Louisa May Alcott repeats this experiment in *Little Women* (1868-69) when the four March girls cease their chores for a week in order to enjoy a leisure that too soon palls for lack of some brisk, cheerful, muscular, domestic activity. While for them such activity means housework, to Harry it

means a different kind of exercise altogether. He cannot invigorate himself with physical exertion, so he must explore his mind and other faculties to refresh his spirits. Through this experiment with Lucy he observes that patience and delayed self-gratification become their own rewards.

Over time Harry also learns the recuperative and constitutional value of aesthetic appreciation and laughter. As Mother reads aloud to her children from Scott's *The Lay of the Last Minstrel* (1805), he takes "a pleasure in listening"²⁵ (3:360), the very skill that Mr. Watson proved so proficient in when conversing with the laborers in the Midlands factory. While Harry's cozy, genteel home, spiced with popular *belles lettres*, signifies a realm somewhat distant from the factory shop in which management and labor discuss domestic finances, the overlap of listening skills and domesticity is significant; attentiveness is portable and flexible, characteristics essential to anyone attempting inventive enterprise or social discourse—particularly stodgy Harry. Indeed, the lad's surprise "at being so much pleased with it [the poetry], as much even as Lucy" signals a turning point in his cognitive reconstitution, for it points to Harry's awareness of his own previously untapped human capacities. He is not immune to the pleasant feelings that words and rhythms can convey, just as he cannot resist laughing at Lucy's antics as she tries to help him while away the hours. He now can recognize and appreciate the pleasures that word patterns can evoke, which unfold around him daily as Father, Mother, and sister stretch the lad's imaginative muscles with silly rhymes and riddles and word-association games. That the convalescent is in a state of mind and body peculiarly suited for remembering and learning from these activities is vital. Indeed, in this section Father voices Richard and Maria Edgeworth's pedagogical belief that "the pleasure of any

successful exertion, as well as the labour of thinking, have the effect of fixing ideas or impressions in our minds. Pain or pleasure of any kind, joined or associated with our thoughts, secure them in the memory, and assure us in recollecting them''' (3:360).²⁶

Simultaneously experiencing the pain of healing and the pleasure of new thoughts, Harry receives a double dose of pedagogical reinforcement that promises to fix in his mind a nimbler cognitive course set in motion by imagination.

Harry's illness also sets in motion a quest for the intellectual and behavioral orbit that will make concrete his greatest desire: to be a worthy scientist or entrepreneur. The "workings of his own mind" (3:367) thus become of primary interest as he tries to wrest from biographies a schemata on which he can model his own cognitive and imaginative processes. After he has regained his health, he confesses to his father,

"I have long had, deep down in my mind, deeper, I believe, than anybody sees but you, a great ambition to make, some time or other in my life, some great discovery or invention. I have been long thinking of this, and considering how other people have succeeded. When I was confined to the sofa, I thought of it more and more; and particularly how I could manage my own mind so as to make it do what I want. In reading the accounts of the childhood of great or scientific men, I have tried to find out what they did and said, that I might compare my thoughts and ways of going on with theirs: but enough is never told of these things."
(3:366-67)

Harry tries to adjust his mental course by tracing the childhood patterns of scientific and technological “stars,” a quixotic twist on Tommy Merton’s ontological shift in *Sandford and Merton*, brought about by tracking celestial orbits. And though the lad seems to be complaining that this biographical sleuthing has been fruitless, as if he can find no parallels between their literary representations and his own, Edgeworth does, in fact, make Harry into his own Ben Franklin, ostensibly one who will stick to a regular plan of self-improvement to obtain the object of his vaulting aspirations.

Edgeworth’s allusions to Franklin are subtle but *there*. Recall, for example, the opening pages of Franklin’s *Autobiography* (1791), in which the author seems to be anticipating just such a person as Harry: “As constant good fortune has accompanied me even to an advanced period of life, my posterity will perhaps be desirous of learning the means, which I employed, and which, thanks to Providence, so well succeeded with me. They may also deem them fit to be imitated, should any of them find themselves in similar circumstances.” Yet Franklin wants to tidy up his self-representation in printed form, stating that he “should have no objection to go over the same life from its beginning to the end, only asking the advantage authors have of correcting in a *second edition* some faults of the first” (16; my emphasis). In this cheeky nod to a continual self-improvement that he claims eluded the younger, textual version of himself, the celebrated author offers an idea that Edgeworth incorporates within Harry’s character after the roof-fire incident. Indeed, once the lad is deemed well enough, his first order of business is to correct the faults that he now sees in his original design for Dame Peyton’s roof. With Sir Digby’s permission to use slate instead of thatch, Harry “look[s] at his old plan again; and, with his father’s concurrence, ma[kes] some improvements in this *second edition* of

his roof” (*HLC* 3:237; my emphasis). The literal and symbolic resonance in this moment is almost too much. On the literal level, Harry, plainly, is doing right by Sir Digby and Dame Peyton by helping create a better roof for the now-beleagured old woman and her family. We wouldn’t expect anything less from this son of Father and Mother. Thus, on a symbolic plane, Harry’s re-creation mirrors and anticipates his own ontological and epistemological reconstruction. Moreover, this Gothic form of self-architecture, cast as a Franklinian “second edition,” suggests that Harry’s aspirations, tempered through his trial by fire, will eventuate in success—perhaps nowhere more so than within the pages of *Harry and Lucy Concluded*, where the lad’s own actions can serve as a model for other, scientifically minded young readers.

Edgeworth, however, is not finished with Franklin yet, as Harry’s last, and arguably most meaningful, experiment can attest. Now fully recovered, the boy burns to replicate, on his own, a kite with a messenger line, which can provide a means of communication between shipwreck victims in the water and people on the shore. He does so, but for the first time in the text, he keeps his invention “a profound secret even from Lucy, having determined to try it the first time with no one by but his father” (3:339). While readers easily can see the parallel between Franklin’s celebrated use of a kite and Harry’s own version, perhaps an even more powerful but not as well-known parallel is the secrecy with which both engage in their experiments. According to Lunatic Joseph Priestley, who in 1767 wrote an account of the scientist’s famous kite experiment, Franklin himself, “dreading the ridicule which too commonly attends unsuccessful attempts in science,” “communicated his intended experiment to nobody but his son who assisted him in raising the kite” (“Franklin’s Kite” 234).²⁷ Harry not only

keeps his own experiment a secret; like Franklin, he also makes his endeavor exclusive to father and son. This separation from the distaff side is peculiar in a text devoted to a brother-sister, tag-team approach to science. Yet Edgeworth's text is winding down, and she must provide for her character a gender-appropriate move closer to the world he will inhabit as an adult. In choosing and in keeping secret this male-centered experiment in humanitarian aid, Harry steps away from his childhood role as a tutor to his sister and steps toward his adult role as a scientist for the world. With Father as his sole confidante, Harry consults with a person closer than Lucy is to his own grasp of scientific and mechanical knowledge and acumen. He is beginning to become part of a larger, male-dominated, scientific community that consults with fellow members and then is apt to reserve for its families the happy news of any progress. Indeed, if Harry's messenger kite works, he "hope[s] to delight Lucy doubly with the pleasure of the success and the surprise" (3:339)—which he does, carrying himself with more confidence and sheer ebullience than at any other time in the text. "Bearing his kite in triumph," his face "radiant with joy," the boy announces the success of his experiment and begs Lucy and Mother to come outside and watch. "'We will put it up again for you,' he tells his sister, 'for there is no joy without you and my mother. Let me tell you about my messenger'" (3:350-51). Harry's ecstasy here is as telling as it is mindboggling; through his Franklinian kite he has received a symbolic charge so electrifying that it anneals the changes that began with the boy's convalescence. No longer are his experiments solely about *him*; rather, they symbolize instead a happy *domestic* progress that all members of the family can enjoy—a family that also can be writ large on the stage of empire. Harry's deep emotional connection to, and intellectual ability to separate from, the distaff side,

combined with his humanitarian experiment, presages his readiness to commit to the Rousseauian social contract.

With this readiness Harry continues to evince his need to improve his scientific knowledge and understanding, both of which cause Father to decide that Harry is mature enough to handle his own pedagogical future.

“I consider you, my dear son, as no longer a child, and I securely trust to your own efforts for the continuance of your own education. A celebrated person has observed, that every man has two educations—one, which is given to him by his parents or tutors, while he is a child: the other, which he gives to himself when he becomes a man. This latter is of the greatest consequence of the two, and this, with every wise and good man, should go on to the latest period of his life.” (3:371)

The model Harry should follow, in Father’s opinion, is that of Sir Rupert Digby, whose “taste for science,” “indefatigable pursuit of knowledge,” and “constant exertions to be of use to others” “constitute his happiness—a species of happiness that is independent of all celebrity, and of all human applause” (3:370-71). Father wraps up this thesis with a telling quotation from lines 1159-160 of James Thomson’s *The Seasons. Spring*: “You have seen,” he tells Harry, “on what [that life] depends—‘Friendship, books, / Ease and alternate labour, useful knowledge / Progressive virtue and approving Heaven’” (3:371).²⁸ In other words, the gentleman philosopher does duty to self and family by following a Georgic ode to British upper-class tradition that hearkens to an earlier day in

which, as Thomson's earlier words tells us, "An elegant sufficiency, content, / Retirement, rural quiet" (ll. 1158-159) smooth the way for both Edgeworth's "useful knowledge" and Thomson's "useful life," capstones embodying virtue as well as Heaven's approbation. Insert scientific knowledge and its pursuit in place of useful knowledge and life, and, Edgeworth suggests, the upper classes virtually guarantee a morally progressive and successful future on the world's stage.

Here Edgeworth ends her text; but we cannot forget to resituate Lucy within the context of these last pages, for as Mitzi Myers reminds us, "Harry and Lucy's is a double growingup [*sic.*] story" ("*Aufklärung*" 119). How much and in what ways Lucy matures thus become central issues. Consider what we know so far: Lucy has been enjoying learning with her brother the intricacies of science and of various technological apparatus, despite the very real dangers of ostracism and dislike that a larger society may impose on her because of that education. Unlike Harry, she does not suffer bodily injury from a fire or some other catastrophic accident; indeed, her life appears rather tame in comparison, for in addition to the experiments that she shares with her brother, she engages in normative female activities like taking walks, sewing a christening gown for Dame Peyton's grandchild, and learning how to remove spots from various fabrics. By story's end, then, readers could posit that all the hullabaloo has been vastly overrated in Lucy's case. Yet it's important to remember that the danger Lucy faces is of a vastly different sort than Harry's and thus will look and feel a lot less spectacular. A critic from *North American Review* can cast Harry and Lucy's reality as a fairy tale, "a dream-land of their own, laid out into laboratories instead of fairy wings, and lit with fire-balloons instead of will-o'-the-wisps" (237), but we know darned well that Lucy isn't

going to set out on a fearsome quest, as some few fairy-tale heroines do. She's more apt to prick her finger like Sleeping Beauty or eat a poisoned apple like Snow White. In other words, the danger Lucy faces is much more common and therefore more insidious and discomfiting than the muscular exploits of fairy-tale heroes or derring-do brothers, for it tends to occur within what are *supposed* to be the safe confines of domestic duties.

Indeed Father and Mother constantly act as if the activities of everyday life pose an infinite threat to Lucy's well-being. Climbing into carriages, descending staircases, and walking through streets in the rain create potential nightmares, for Lucy may fall off or fall down in those hazardous environments. And her reputation is just as fragile: showing off or, horror of horrors, mimicking someone may result in social and moral damage. Mamma explains that "though it might be entertaining at the moment, Lucy, it is dangerous; it would make you disliked; and what is worse, might lead you to say and do what is ill-natured, and for which you ought to be disliked'" (3:209). That these perhaps overly solicitous parents don't object to Lucy being shocked with an electrical machine but do forbid her from walking in the rain seems downright bizarre. It's as if they are displacing onto regular domestic life their fear of what science might do to Lucy's femininity and her future. At this point a biographical critic might suggest that Edgeworth, through her portrayal of the parents, may be registering a well-founded fear of sibling death, a phenomenon she would continue to experience throughout her long life as her brothers and sisters, particularly those born to Honora and Elizabeth Sneyd, perished around her.²⁹ Further, early nineteenth-century domestic ideology would ascribe to Lucy, rather than Harry, the more vulnerable physical constitution, which Edgeworth's exposure to her consumptive step-mothers, Honora and Elizabeth, and tubercular sisters,

Honora and Charlotte, would tend to reinforce (Butler, *Maria* 100, 132-33). While this interpretation is psychologically plausible, it seems too simplistic by itself, given the rich nuances woven throughout Edgeworth's text. And Lucy is a healthy child who never even suffers the sniffles. The key, then, to this volatile parental panic appears to lie within the parents themselves.

Consider, for instance, where the most resonant experiments take place within Harry and Lucy's world: in Harry's case, Father's and Mother's preparation of the highly inflammable basilicon ointment *at Harry's bedside* packs a punch that no other scene can touch, whether the subject is steam engines, electrical machines, or Digby's castle. The message: when *one's own* domestic space—not someone else's foundry or Digby's lab—morphs into a scientific theater, as it does here, the emotional dynamics skirl ever higher because *parental fear* bolts to the fore. Harry's writhing form thus becomes doubly charged, for it embodies yet cannot contain Father and Mother's radiating anxiety, which itself signals the first time that Harry and Lucy's parents have *not* been complete masters of the situation. Indeed, the children in *Harry and Lucy Concluded*, as in Edgeworth's other juvenile texts, typically are surrounded by adults who always have the right answers to their questions. No one ever says, "I do not know that," or "That question is too difficult for me to answer," or "You have asked a question for which no answer exists." This parental universe thus is typically all-knowing, providing children with a solid domestic foundation. Harry's burns, however, confound that parental omniscience, irrupt that foundation, because Father and Mother cannot guarantee perfect control over the basilicon and turpentine, much less the doctor's eventual appearance or the boy's return to health. Likewise, Father and Mother cannot

compel mastery over Lucy's daily actions; they therefore fear at some level the havoc that mere chance—and childhood clumsiness—could wreak. While they can provide protective male supervision during scientific activities, they literally cannot do everything *for* their daughter. She must do some things on her own, like walk and talk, which provokes a constant stream of parental agitation.

Lucy's independence, in fact, sparks the second (and final) scene in which domestic and scientific spaces conflate and thereby propel a commanding parental intervention. In their little cottage on the Digby estate, Lucy, Harry, and Mother discuss whether or not some green candies obtain their color from a nontoxic substance or from poisonous verdigris, a by-product of copper. When applying drops of hartshorn—what we now call ammonia—to the candies does not turn the candies blue, the tell-tale sign that copper lurks within, the children, with their mother's permission, eat some of the unanointed candy with much delight. Yet Harry, of course, is not satisfied that the test itself proves that “hartshorn will turn verdigrise, or any thing which contains copper, to a blue colour” (3:321). Lucy thus suggests that she pour vinegar on a half-penny, ““which,”” she says, ““will corrode the copper.”” ““And after we have let it lie some time,”” she continues, ““if we see verdigrise on the halfpenny [*sic.*], as I hope we shall, we will drop some hartshorn over it, and see whether it turns blue; then we shall be convinced whether hartshorn is, or is not, a test for detecting copper”” (3:322). Here, for the first time, Lucy is solely in charge of a scientific experiment. From inception through materials to probable observations and conclusion, Lucy knowledgeably and concisely constructs a narrative that, put into practice, should prove or disprove her basic hypothesis. Lest we doubt her, Harry's immediate approval ensures that the past six hundred or more pages

have turned his silly sister into an apt pupil with a good mind. Mother's immediate reaction, however, signals an alarm that seems out of proportion to the task at hand. She claims that "the poison of copper [is] so dangerous, that she [does] not like to have Lucy undertake this experiment by herself," and asks her children to wait until she can supervise them later that day. While the candy experiment effectively meshes domestic and scientific spaces, Lucy's narrative of an experiment yet to be performed ignites a panic as inexplicable as it is parental. Parental supervision is a fine thing and certainly reasonable in many cases, but the scenario that Lucy sketches above hardly warrants Mother's alarm. Does she think her daughter is going to eat the half-penny? Swig a bit of ammonia? The girl just isn't that stupid, yet Mamma won't trust even finicky Harry to stand *in loco parentis*. And surely pouring out some vinegar is a far less hazardous venture than dribbling ammonia on candy, which Mother *does* allow Lucy to do. The peculiarity of this moment only increases further upon recalling an earlier scene in which Lucy, of her own volition, decides to step well away from a vessel of sulfuric acid that Sir Digby proceeds to use in his laboratory. Since Lucy has been making responsible decisions to preserve her own safety, we must look to Mother for clues that may explain her behavior.

That Mother usurps the experiment later that evening suggests the severity of the apparent crisis at hand, for throughout the text neither parent ever has *taken over* any pedagogical situation from the children—except here. To wit:

[Mother] was at leisure, or made leisure that evening, and without being reminded of it, recollected her promise: she put two or three halfpence into a saucer, and

covered them with vinegar—at the end of a few days she took the halfpence out, and left them some time exposed to the air, when they were most satisfactorily covered with verdigrise.

“Quite green! Harry, look at them,” said Lucy.

“But do not touch them,” said her mother. “A few grains might kill you. Now, Lucy, for your hartshorn—drop a little on the verdigrise.”

She did so; the green colour was instantly turned to blue, and Harry was satisfied. (3:322)

So thoroughly does Mother take control of the situation that her words and actions literally command the page. Harry, who *always* has something to say about *any* experiment, remains unaccountably mute, and Lucy’s enthusiastic exhortation to her brother merely to observe the color green prompts an anxious interdiction and dire warning. Despite what some readers may argue is a representation of a calm, caring, and rational parent being scrupulously careful with her children around toxic substances, I read a caring mother freaking out—as much as any Edgeworthian mother is going to—under benign circumstances in which her children *already* are acting responsibly and carefully. Apparently, having Lucy pour vinegar into a saucer somehow transgresses the boundaries of feminine safety—a richly ironic idea, given vinegar’s tie to cookery—yet dropping ammonia on poisonous verdigris is acceptable behavior. Indeed, if Lucy’s earlier articulation of this very experiment proves that Mother need not worry about her daughter’s scientific progress, it also signals that Mother now must refocus her own

attentions on her daughter's more domestically oriented pursuits because Lucy is ready to launch into an area of exploration more closely aligned with her future role as wife and mother. If that's the case, then Mother must take the lead in cookery-related activities, like pouring vinegar, because the child has yet to be initiated into these domestic mysteries. The danger, then, that beckons in this domestic and scientific scene is not Lucy's scientific ability but rather her domestic immaturity. Arguably the girl is more sophisticated in one sphere than the other and therefore requires active, specifically feminine intervention—a “shocked” realization on Mother's part, perhaps, because she is realizing that her little girl is growing up and must now take a step closer to her adult role as a woman.

Mother's discussion with Lucy about mother-of-pearl, which occurs while Harry and Father are applying the finishing touches to Harry's messenger kite, ushers in Lucy's own acceptance of this new (although not explicitly stated as such) direction in her education. As Lucy listens to her parent explain the microscopic grooves that reflect to the human eye the many prismatic colors of mother-of-pearl, she attends to a scientific lecture about an organic substance richly symbolic in domestic terms. It is foremost *mother-of-pearl*, that is, the substance in a mollusk that coats wayward particles in layers of minerals and proteins and, after a prolonged period of irritation, gives birth to a pearl (“Pearls”). As if signifying upon this resonant maternal connection, Mother notes that “some people compare [the grooves in the mother-of-pearl] to the delicate texture of the skin at the top of an infant's finger” (*HLC* 3:343). What better way to woo a child closer to the domestic mysteries than to invoke what would be considered the most sacred of those mysteries, motherhood, through an intimate discussion, mediated by a beautiful but

sexless object, between mother and daughter? This conversation, in turn, allows Lucy to confide to her mother that the part of her scientific activities with Harry that she has appreciated “‘above all,’” occurred during Harry’s recuperation, when “‘it was the greatest happiness to feel that he liked to have me with him always, reading and talking to him, and being interested in the sorts of things which he liked best’” (3:349). Science not only cements the brother-sister bond; it prepares Lucy for a future in which she feels comfortable and gratified pleasing her masculine domestic partner and basking in the pleasure of his company. With motherhood and wifehood thus genteelly covered, Edgeworth rounds out Lucy’s future attentions with a nod toward womanhood, here mediated through Lucy’s fledgling sense of sisterhood with her mother concerning the religious devotion that nature evokes: “‘I begin to feel the truth of what you have often said to me,’” she says thoughtfully, “‘that the more we learn of what are called the works of nature, and of the wonderful inside of our own minds, the better we must become, and the more pious. I am not sure whether *pious* is the right word, or *religious*; but you know what I mean’” (3:350; italics in text). Thus Edgeworth takes Lucy full circle, for she now has proven that she is capable of becoming the right sort of woman, wife, and mother that her own mother described at the very beginning of the text. Just as Harry is poised to step into his own educational apprenticeship to chronological manhood, so too is Lucy ready to begin her domestic apprenticeship to chronological womanhood.

Children’s intellectual and moral development takes another revisionist turn in Nathaniel Hawthorne’s *A Wonder-Book for Girls and Boys* (1852). Painting a specifically New England garden landscape in place of Day’s fictive English plot, and using an eighteen-year-old storyteller as an Edgeworthian intermediate companion for a

dozen energetic children, Hawthorne focuses anew on creativity as the component vital to any healthy American enterprise, including science. Unlike Day and Edgeworth, however, Hawthorne uses science obliquely in the fictive realm of Tanglewood, where it is densely layered in cultural references and figured in the children themselves to provide a provocatively pedagogical albeit unobtrusive punch. Added to the moral ideas that Hawthorne's uses of science connote are the moral and pedagogical notions that an elite and learned nineteenth-century audience associated with Greek mythology, particularly in the figure Hermes, whom Hawthorne calls Quicksilver. This Olympian's fluid verbal play, combined with his strong scientific and domestic ties, promotes healthy imaginative enterprise as the best visionary guide in the tricky commercial world that the United States had become by the middle nineteenth century.

NOTES FOR CHAPTER II

¹ Harry's and Lucy's ages never appear in this text, so readers unfamiliar with the pair must rely on the children's behavior to decide who is the older. Harry's relative caution and advanced scientific knowledge suggest to me that he is older than Lucy, a perhaps sexist notion on my part given Davidoff and Hall's contention that in "the idealized model" of the "brother-sister tie" (already "idealized in literature" yet having a "strong basis in everyday life"), the "brother was always older than the sister" (348), probably better to be her "indulgent monitor" as he "mould[ed]" her "into correct femininity" (349). Mitzi Myers would re-frame this notion, most likely, by saying that "the loving connectedness between the two isn't just an authorial device" because Maria "recognizes from her own experience that love fires ambition and powers learning like nothing else" (*Aufklärung* 127).

Looking back at *Early Lessons*, however, is helpful, for the children's ages are specified here—albeit in the very last paragraph on the last page of the narrative, as if the information is an afterthought: "Thus ends an account of three days passed by Harry and Lucy.— One day when Harry was about five, and Lucy six years old [Part 1]. And two days, a year afterwards, when Lucy was seven, and Harry six years of age [Part 2]" (95). Thus, initially at least, the two are a year apart, so close to being the same age that who is or isn't older or younger seems hardly relevant. Perhaps that is why in the next installment, *Harry and Lucy* (Boston, 1815), as well as in *Harry and Lucy Concluded*, their ages are never mentioned. Marilyn Butler associates the 1825 text with fourteen-year-old readers, which suggests that she considers Harry and Lucy to be roughly fourteen as well (*Maria* 166). Mitzi Myers, on the other hand, claims that "the story is meant for ages 10 to 14, not 8 to 10," the ages that Kramnick had selected (*Aufklärung* 134n23). She does not mention, however, how she determined that age range, nor does she pinpoint Harry's and Lucy's ages.

² In this biographical section I refer to Maria Edgeworth as Maria and to her father, Richard Lovell Edgeworth, as Edgeworth in order to distinguish between the two.

³ Most refs. cite 1767 as Maria's natal year. In 1971, however, Butler and Christina Colvin assert that the probable accurate year of her birth is 1768, a conclusion based on documentary research in Edgeworth family archives ("A Revised Date" 339-40). Butler incorporates this revised date in *Maria Edgeworth: A Literary Biography* (36), as does Colvin in *Maria Edgeworth: Letters from England 1813-1844* (xiii). Feminist scholar Mitzi Myers also has adopted the year 1768 in her work on Maria Edgeworth (e.g., "Anecdotes from the Nursery" 221).

⁴ Virginia Woolf skewers Richard Lovell Edgeworth and Thomas Day in her portrait of Edgeworth's marriage to Anna Maria Elers. Portraying both men as crass, insensitive, self-adoring clods, Woolf writes what appears to be the *first* sympathetic impression of Anna Maria's travails with her "Lunatic" husband (110-17).

⁵ Butler spells the schoolmistress's name with a *u*—Latuffiere (51, 52); all other sources that I have seen use an *a*—Lataffiere. See Hare 1:9, e.g.

⁶ Edgeworth does not specify what "all the rest" means re: the sentence "All the rest was mere child's play" (1:210).

⁷ Louisa Beaufort, unacknowledged author of *Dialogues on Entomology* in *Harry and Lucy Concluded*, was Edgeworth's aunt by marriage. Specifically, Louisa was sister to Frances Beaufort Edgeworth, Richard Lovell Edgeworth's fourth and longest-living wife. Henrietta (Harriet), another Beaufort sister, also wrote a scientific book for children entitled *Dialogues on Botany, for the Use of Young Persons; Explaining the Structure of Plants, and the Progress of Vegetation* (1819). See Colvin, *Maria Edgeworth* xxxvi-xxxvii, 376n2.

In a letter dated 9 Apr. 1824, Maria Edgeworth stated that she would like to send both of her sisters' books to Rachel Mordecai Lazarus in North Carolina. Maria also revealed to her friend that her aunts' names were "not put to the works" and requested that Lazarus keep their anonymity intact. In her response on 17 July, Lazarus thanks Maria and "the ladies" for, as she puts it, "the favour you confer in disclosing to me who the authors are. I confess that the knowledge of this, whatever the intrinsic merit of the works may be, will give them an additional interest" (Lazarus and Edgeworth 52, 62). Louisa's authorship is revealed in Lazarus and Edgeworth on 52n48.

⁸ The *OED Online* defines the adjective "bird-witted" as "lacking the faculty of attention, flitting from subject to subject," hence my use of the word *flightiness* here.

⁹ See the *OED Online* for the definition of *bird* as "A maiden, a girl." Cited as an example of this definition is p. xli of Scott's 1816 *Old Mortality*, which the *OED* editors quote as follows: "'Peggy, my bonny bird,' ... addressing a little girl of twelve years old."

Mitzi Myers argues that Edgeworth's use of the term "birdwitted" is not an example of "essentializing in terms of gender" but a borrowing from Bacon, who uses the word to mean "too quick, hopping from one topic to another—the opposite of birdbrained or dimwitted" (*Aufklärung* 131n10). I agree that flightiness is indeed an important denotation in Edgeworth's text and that Edgeworth herself is not positing an essentialist doctrine; yet I cannot ignore the gender-bound implications for the reading audience both in 1825 and today. "Bird" then, as now, carries gendered nuances that will creep across readers' minds despite best intentions or strict interpretations.

¹⁰ Edgeworth uses the term “*twist frame*” (1:183) for water frame here. For information on Arkwright’s and Hargreaves’ inventions, see Aspin 9, 10-12, and Mantoux 223-34.

Edward Everett Hale praises Edgeworth’s description of Hargreaves’ spinning jenny in his article “Cotton from First to Last” on 129.

¹¹ For Darwin’s and Watts’ aid re: Arkwright’s patent trials, see Darwin, *Letters* 141-42; King-Hele, *Erasmus Darwin* 204-06; Schofield, *Lunar Society* 349-55; and Uglow, *Lunar Men* 395-96.

¹² The few critics who write about *Harry and Lucy Concluded* tend to base their interpretations of the entire text on this scene alone. The most specific thing that biographer Marilyn Butler says about the book is that Maria’s “best treatment by far of industrial England occurs in the late and little-read *Harry and Lucy Concluded*, in a scene in which she honestly presents her divided response” of “admiration” and something “akin to horror” (*Maria* 143; see also 144, 434). (Edward Everett Hale and John Ruskin probably would have had a thing or two to say to Butler about the book’s readership.) Isaac Kramnick calls this scene a visit to a “steel mill,” which he then excerpts to illustrate that “some of these holiday outings elicit veritable poetic flights of fancy from Edgeworth.” More important to him is painting the book as an unproblematic “hymn to science and industry and the godlike figures who have made England what it was in the 1790s, the factory of the world,” with “factory master” Mr. Watson representing “the model bourgeois master, the new heroic model” (“Children’s Literature” 223, 222, 225). Geoffrey Summerfield blends Butler’s and Kramnick’s notions to insist in a self-satisfied tone that Harry and Lucy represent the binaries of “[Richard Lovell] Edgeworth and Maria, Science and Art,” which “perambulate instructively through a landscape that showed off all the great achievements of the industrial revolution, i.e. of the Lunar Society” (139). He isolates “the furnaces of the Black Country” to question rhetorically “the first fruits of the triumph of science” and what “the exercise of reason in the service of utility [had] brought them to” (140).

Mitzi Myers, disgusted with all three of these scholars but most especially with Kramnick, lists the many problems that she finds in Kramnick’s work, including a thesis that “has long been old news to specialists” (i.e., “that juvenile books are highly ideological”); ignoring the book’s “literary qualities,” as well as “its generic and biographical contexts”; transforming “the author’s democratization of Enlightened knowledges into a gender rigidity foreign to the text”; and shrinking “four complex volumes into two key episodes” about “sexual stereotyping” and “men’s master narratives about what counts as science” (“*Aufklärung*” 119; see also 120). Myers, on the other hand, interprets the Coalbrookdale scene, which she calls “Harry and Lucy’s narrative of incomprehension and discovery,” as a query about “how progress makes sense in human terms.” Through the children’s “physical and epistemological progression from amazed curiosity through ‘good guesses’ to complex understanding of how new scientific knowledge changes people’s lives,” she concludes, Edgeworth

“demonstrates that the material and technological world makes sense only through the creative and linguistic play of the speaking subject” (122, 124).

¹³ From the age of 14, Maria assisted Richard Lovell Edgeworth with a variety of estate responsibilities at Edgeworthstown. Together they visited tenants' holdings, collected and recorded rent payments, wrote and copied business letters, and discussed tenants' domestic issues, during which times Maria actively absorbed her father's ideas, values, and policies concerning appropriate and just personnel and estate management. RLE left Maria in charge of Edgeworthstown during his absences from home as early as 1791, and she continued to run the estate's affairs after his death. The two of them, combined, effectively ran the estate for 60 years. See Butler, *Maria Edgeworth* 87-91, 101-02, and Hare 1:12.

¹⁴ See Lindee, “The American Career of Jane Marcet's *Conversations on Chemistry*, 1806-1853,” and Greg Myers, “Fictionality, Demonstration, and a Forum for Popular Science: Jane Marcet's *Conversations on Chemistry*.”

Maria had long considered Jane Marcet a dear friend and *Conversations on Chemistry* a familiar text when she wrote this passage in *Harry and Lucy Concluded*. Back in May of 1813, when Maria had first made Jane's acquaintance at a dinner party held at the Marcet home, Jane first heard about the way RLE used *Conversations on Chemistry* with young children. As Maria wrote to her sister Fanny Edgeworth, “Mrs. Marcet said that she was quite surprised by my father's having ventured to give ‘Conversations of Chemistry’ to a girl of 9 years old. My mother told how it had been read and explained bit by bit. ‘Ah’ said Mrs. Marcet ‘Who but Mr E would or could do that!’” (18 May 1813; Colvin 64).

¹⁵ Colvin, editor of *Maria Edgeworth: Letters from England 1813-1844*, notes in the intro. Maria's “frequently inaccurate quotations,” a habit that dogs Edgeworth's published texts as well as her personal correspondence (xli).

¹⁶ Fredrika J. Teute argues that readers of *Loves of the Plants*, the second part of Darwin's *Botanic Garden*, participated in and enacted freedom from social conventions during a historical period of political, spiritual, and emotional radicalism. Yet its high cost in both England and America “preserved to a relatively safe elite class the consumption of the text's underlying radical ideas of sexual license and social critique” (330; see 319-45).

¹⁷ This poem originally appears in Edgeworth's play *The Two Guardians; A Drama, in Three Acts*, published with other Edgeworth pieces for the stage entitled *Comick Dramas, in Three Acts* (1817). In the third scene of the first act, one St. Albans, “a young West Indian, heir to a large fortune,” engages in a brief conversation with Quaco, “a black Boy, belonging to” him (112). Albans informs Quaco that he is free because he is in England and, therefore, has the choice to “chuse another master” (127). Once Quaco convinces Albans of his undying love, fealty, and service, the West Indian heir gives the black boy? youth? man? the money he has earned from his labor on “that provision ground,” warns

Quaco not to be spoiled by such largesse and not to waste all the money on drinking, and then exits the stage in pursuit of “the waltz and charming Juliana” (127, 128). Quaco then launches into the four-stanza song that appears as the poem “The Freed Negro” in *La Belle Assemblée* five years later. Quaco’s so-called freedom is short-lived, however, for as soon as he finishes his song and counts his money, St. Albans calls to him from off stage, requesting that he play the tambourine for the dancing ladies.

The song and the poem are virtually identical. Other than minor variations in capitalization, punctuation, and spelling, only one word differentiates the two versions. In the 1822 poem, stanza 1, line 2 reads, “Magic land *is* British ground”; in the 1817 song, stanza 1, line 2 reads, “Magick land *this* British ground” (my emphases).

For a *very* brief interpretation of Quaco within the play’s larger contexts, see Mellor 321-22.

¹⁸ Refs. to slavery, abolition, “The Grateful Negro,” the “Freed Negro,” or other subjects concerned with black racial issues find no purchase in Butler’s biography of Maria Edgeworth or Colvin’s volume of Maria’s letters from England between 1813 and 1844. In Hare’s two-volume *Life and Letters of Maria Edgeworth*, two of Maria’s early letters—one from Mar. and one from Oct. of 1792—mention slavery, but her tone and word choice express either a definite distancing from or a common sentimentality about the slaves’ suffering. See Hare 1:23, 28.

¹⁹ In e-mail correspondence with me, Bristol historian Peter Wardley notes that Clifton “spectacularly overlooks the Avon Gorge and was the preferred location of the wealthier—so the description ‘hanging’ [in reference to the “hanging gardens of Clifton”] is quite apt” in this scene from *Harry and Lucy Concluded*.

²⁰ The temperance movement “proper” would not begin in Great Britain until the late 1820s and early 1830s, followed by the teetotal movement in the 1830s and 1840s. See Harrison, Longmate, and Zieger.

²¹ Maria Edgeworth’s version of Scott’s text is as follows: “This potent commander of the elements—this abridger of time and space—this magician, whose cloudy machinery has produced a change in the world, the effects of which, extraordinary as they are, perhaps are only now beginning to be felt, was not only the most refined man of science, the most successful combiner of powers, and calculator of numbers, as adapted to practical purposes; was not only one of the most generally well informed, but one of the best and kindest of human beings” (2:170). Note that where Scott calls Watts “the most *profound* man of science,” Edgeworth dubs him “the most *refined* man of science” (my emphases).

²² My thanks to Caro McIntosh, Archives and Records Management, U of Gloucestershire; Steve Poole, School of History, U of the West of England; and especially to Peter Wardley, School of History, U of the West of England, for their enlightening e-mail correspondence with me concerning this ornery coconut.

²³ According to William Cook's *Physiomedical Dispensatory*, basilicon ointment can be made by "melt[ing] together eight ounces of lard, five ounces of resin, and two ounces of beeswax; strain[ing], and stir[ring] constantly till cool." This "gently stimulating dressing" is good for treating "indolent ulcers and burns." One danger here, as it would be for Father and Mother in Harry's room, is the resin, which at high enough temperatures can "ignite, burning with a yellow flame and large volumes of black smoke"—something that Edgeworth doesn't mention in this scene. Instead she focuses on the hazards of oil of turpentine, which Cook merely states is "a peculiar volatile fluid" that is "yielded as an exudation by most trees of the Order Coniferae, chief among which is the genus PINUS." Although oil of turpentine "has long been used in stimulating liniments designed for rheumatism and other cases," Cook doesn't specify its use for burns, slight or severe, perhaps because if it is "used outwardly for any length of time, it occasions redness, followed by numbness and partial paralysis; and these effects have been known to continue for many weeks after the article had been discontinued" (unpag.)! High inflammability seems to be the least of Harry's problems. Concerning this issue, *The British Pharmaceutical Codex* of 1911 notes that the oil "is volatile at ordinary temperatures, and boils at about 155°, at least 88 per cent. distilling below 165°." On the positive side, this oil is an antiseptic "used internally or externally" and "in sufficient concentration" is "rapidly germicidal to all forms of bacteria," which may in Edgeworth's time have made up for any "irritation and rubefaction" its application provoked (unpag.). See Cook, "Resina" and "Terebinthina. Turpentine, Oil of Turpentine," and the *Codex*, "Oleum Terebinthinae, B.P. Oil of Turpentine."

The *OED Online* traces basilicon as far back as 1541. *The Pharmaceutical Journal* noted in July 2000 that a basilicon ointment jar fetched £2,900 at auction on 28 June 2000. "Sold at Vost's of Newmarket," the "English delft jar, circa 1700-20," garnered "roughly four times its pre-sale estimate of £600-800" and thus became the highest-priced of all 49 apothecary vessels sold at auction that day. See "Pharmacy Antiques" 81.

²⁴ Leon Nigrosh's review of "Canaletto to Constable: Paintings of Town and Country from the Yale Center for British Art," an art exhibit at the Wadsworth Athenaeum in Hartford, CT, through 26 Apr. 1998, pinpoints Wright of Derby's *Cottage on Fire at Night* as "a small painting" that "best personifies the simple fact that regardless of how hard we may try to prevent it, change is inevitable." He goes on to say that the "dark canvas" is "harshly illuminated by uncontrollable white-orange flames that engulf a tiny shanty as the dwellers watch impassively. The fire is so bright that it outshines a full moon and casts an eerie glow on a nearby fortress in ruins. Together, all of these elements explicitly portray the transience of human life, as well as the continual and mindless shifting of nature."

Note that Wright of Derby produced several versions of *Cottage on Fire* during the late eighteenth century. See Nicolson 1:269-71 and 2:186, 192, 195 for four different versions in which Wright varies both the number of people on the canvas and the existence of a chimney on the blazing cottage (pls. 293, 303, 306, 307).

²⁵ In her biography of Maria Edgeworth, Helen Zimmern mentions that, early in 1805, Maria lounged on a sofa in the Edgeworth's library as she recuped from an illness; there, her sister Charlotte read aloud to her from Scott's newest release, *The Lay of the Last Minstrel. A Poem* (106).

²⁶ In the glossary of *Harry and Lucy, Part I. Being the First Part of Early Lessons* (Philadelphia, 1805), Maria writes the following definition for the word "associate": "Associate. To join; to connect. —Things that happen at a time when we feel pleasure, or pain, are remembered together at another time" (63). Here, as in *Harry and Lucy Concluded*, Maria follows, as did her father, Joseph Priestley's popularization of David Hartley's psychological thesis. See my introduction, n6.

²⁷ According to editor L. Jesse Lemisch, Priestley wrote this account "*under Franklin's guidance*"; see Ben Franklin 234 (italics in text).

²⁸ Edgeworth changes Thomson's original verse, replacing "useful life" with "useful knowledge." Thus Thomson's verse from line 1158 ff. reads as follows:

An elegant sufficiency, content,
Retirement, rural quiet, friendship, books,
Ease and alternate labour, useful life,
Progressive virtue, and approving Heaven!

²⁹ Of Maria's 22 siblings, 15 died before she passed away in 1849, including her elder brother Richard (d.1796) and her younger sisters and brothers (in order from oldest to youngest) Emmeline (d.1847), Anna Maria (d.1824), Honora (d.1790), Lovell (d.1842), Elizabeth (d.1800), Henry (d.1813), Charlotte (d.1807), Sophia (d.1784), William (d.1790), Thomas Day (d.1792), William (d.1829), Frances Maria (d.1848), Sophia (d.1837), and Francis Beaufort (d.1846). By the time Maria was finishing *Harry and Lucy Concluded*, she had already lost 9 of 15 siblings to death. See "Appendix A: The Children of Richard Lovell Edgeworth (1744-1817)" in Butler's *Maria Edgeworth* (489).

CHAPTER III
 MERCURIAL MATTERS: FLEXING MORAL MUSCLE IN
A WONDER-BOOK FOR GIRLS AND BOYS

“The objects of the science [of botany] are scattered over
 the surface of the earth, along the banks of the winding
 brooks, on the borders of precipices, the sides of
 mountains, and the depths of the forest.”

Almira Lincoln Phelps, *Familiar Lectures on
 Botany* (1831)¹

Seguing from Maria Edgeworth to Nathaniel Hawthorne may seem quixotic at best. As we turn our attention from a fictive early nineteenth-century England that sparkles, as does its real-world counterpart, with the promise of a scientifically savvy elite leading the world's single-most powerful nation into a glorious future for Queen and Empire (Drayton), we look to an equally fictive mid-nineteenth-century America that exudes the hustle and bustle of a young country eagerly tackling the challenges of nation building. But where in the world is science? In Hawthorne's *A Wonder-Book for Girls and Boys* (1852), an idyllic New England landscape alive with laughing young children first meets the eye, but nowhere do we see steam engines, barometers, rescue kites, or water pumps. Rather, Hawthorne recounts six classic Greek myths, embedded in a

framing device that casts a college-age lad named Eustace Bright as an impromptu storyteller to a clutch of energetic children impatient for riveting entertainment. In doing so, Hawthorne refocuses Day's and Edgeworth's site of cultural advancement—children learning from interacting imaginatively with the obvious trappings of science—to children learning from interacting imaginatively with literary production, an inventive and didactic endeavor requiring what twenty-first-century readers have come to recognize as a scientific demeanor: one requiring close attention, critical engagement, and teamwork. Thus the *Wonder-Book* kids draw upon the cool, considerate perspectives of *Sandford and Merton*'s scientific men of action as well as the sibling model of learning within *Harry and Lucy Concluded* to produce a communal learning experience that recasts “science” as an internal mode of action, or way of thinking, instead of an external manipulation of objects in physical space. In this schema, the children's imaginations become the primary site of value, much more so than in Day or Edgeworth, in which Sandford, Merton, Harry, and Lucy somehow seem less lustrous than the scientific and technological wonders of the day. Indeed, much of the *wonder* in Hawthorne's *Wonder-Book* stems from the Wonderland, so to speak, of imaginative possibility, not the end product made manifest in concoctions of wood and steel and springs.²

Key to this imaginative power is a Rousseauian immersion in nature, manifested in the *Wonder-Book* through fond descriptions of the Berkshire, Massachusetts, countryside; children named for wild flowers; and the role of natural elements within Eustace Bright's Greek myths. That Hawthorne relies so heavily here upon botanical discourse is important, for through it he creates a world in which morality, pedagogy, and science emerge as imaginative play. In doing so he exploits what John Keith Limon calls

“the possibilities of science” at a time when the boundaries between magic and natural philosophy were still porous. As Limon says, “it requires an insistent ahistoricity to assert that the differences between scientific quackery and scientific respectability could have been neatly defined in the nineteenth century, as the reader of the respected ‘Silliman’s Journal’ (in which one can read about unicorns and self-moving rocks) well knows. Where science philosophy left off and pseudo-philosophy began was unclear.” Indeed, he continues, there were “so many versions of science available to the writer (so many possible alliances) between 1798 and 1859 that it is not farfetched to conclude that, whatever personal or intellectual or aesthetic problem the litterateur may have run into, there must have existed a ‘science’ that responded to it” (12, 6, 14). These ideas are quite useful in considering the *Wonder-Book*, for they encourage looking for science in places that twenty-first-century readers would consider, at best, atypical. Given the heightened role that flowers and plants play in this text, it makes sense to examine Hawthorne’s own intellectual, familial, emotional, and parental experiences with botany and its cousins, horticulture and floriculture, to see how personal and cultural associations with this subject influence the text that he creates.

Hawthorne pours into *A Wonder-Book* a complex combination of many things botanical. Foremost, perhaps, is the eighteenth- and nineteenth-century botany craze in Great Britain, its American colonies, and the United States, which prompted the learned elite to communicate with nature and each other in a variety of venues, including scientific circles and societies, the literary marketplace, genteel activities for children and adults, personal correspondence, and secondary education. Also important to *A Wonder-Book*’s botanical mix are the progressive educational theories practiced within the

Peabody family of Massachusetts, whose three daughters—Mary, Elizabeth Palmer, and Sophia—would become influential in Hawthorne’s life as sisters-in-law and beloved spouse, respectively. Furthermore, the progressive Peabody home helped to propagate Sophia Peabody Hawthorne’s intensely emotional and aesthetic response to flowers, family, and botany, which found a parallel in Hawthorne’s family interests, albeit one less emphatically charged. Drawing as well upon the author’s own joy in gardens and flowers, his association of children with floral metaphors, and his propensity to conceptualize his stories as horticultural specimens, Hawthorne’s botanical discourse also nods to and reworks *Émile* and *Sandford and Merton*. The protective rural countryside that Rousseau insists forms the ideal sphere in which to raise a well-born child re-emerges in the *Wonder-Book* as a *hortus conclusus*, or inviolate garden, in which bountifully blooming children nourish their budding imaginations with healthful doses of Greek myths, the nineteenth-century version of the morally beneficent ancient stories that Sandford and Merton listen to so eagerly in the late-eighteenth-century text that bears their names.

Propagated in an Edenic metaphorical *kindergarten*, or garden of children (and this, years before sister-in-law Elizabeth Palmer Peabody seriously began introducing Friedrich Froebel’s revolutionary kindergarten movement to the United States³), Hawthorne’s botanical discourse reminds us that the imagination’s organic qualities must be cultivated for meaningful cultural advancement. Just as stories quicken Tommy Merton’s interest in imaginative, purposeful industry, and science itself, through mathematics and astronomy, becomes his visionary guide to self-betterment; and just as Lucy’s imaginative power and open-minded perspective spurs Harry’s realization that the

scientific explorer himself must be visionary to create new inventions; so stories in a Rousseauian Tanglewood, themselves experiments in recasting Greek myths, suggest to readers that the imagination itself is the visionary power that leads to wholesome self-cultivation and cultural progress, an idea that the character Quicksilver, Hawthorne's version of the Greek Hermes/Roman Mercury, subtly conveys in three of the six stories. Mental machinery, in other words, trumps metal machinery, for its pliant wit and ingenuity, teamed with farsighted perspective, is the most fertile implement at work in the human domain, a concept that recurring references to the plant world help to propagate. Supported with a scientific demeanor that respects and uses observation, objectivity, and critical thinking, the fictive children's own mental muscularity, flourishing amid an idyllic garden within metaphorically floral bodies that breathe wholesomeness, promises to give the growing American nation a morally advanced and highly able citizenry anxious to promote its welfare.

Pedagogy, Botany, and Natural History

Like Thomas Day and Maria Edgeworth, Hawthorne evinced a certain fascination with Rousseau's philosophies. In an extant fragment of a letter to his sister Elizabeth, dated [ca. 1820-21], a teenage Hawthorne includes "Rosseau's [*sic.*] Eloisa" as one of "most all the Books which have been published for the last hundred Years" that he has recently read. Cited immediately after Rousseau is "Memoirs of R. L. Edgeworth," written jointly by Edgeworth and his daughter Maria—he wrote the first volume; she, the second—in which Edgeworth reveals his own pedagogical debt to Rousseau as well as the particulars of Thomas Day's educational experiment with Sabrina Sidney and Lucretia (*Letters*

15:134; see Chapter I). Furthermore, the “Charge Books” at the Salem Athenaeum reveal that Hawthorne repeatedly returned to Rousseau over a span of two decades. Between the Augusts of 1829 and 1848, Rousseau’s *Works* are registered to Hawthorne’s account at least eighteen times (“Books” 68-71, 74-75, 78, 86). Indeed, if we delete all periodicals, then Rousseau clearly stands out as Hawthorne’s top reading choice *across time*. While the *Works* of Voltaire are charged to Hawthorne on forty-one separate occasions, those occasions fall solely within a highly concentrated two-year period, specifically, October of 1829 to September of 1831 (68-77). Hawthorne’s pattern with Rousseau, however, shows a continuing or a renewed interest over the years. Hawthorne’s account lists Rousseau’s *Works* fourteen times between August of 1829 and July of 1832 and then four times between June and August of 1848, only three years before Hawthorne would pen his *Wonder-Book*. Yet Rousseau’s *Works* were not the philosopher’s only draw. Hawthorne checked out *Émile* twice in February of 1830, the only text within Rousseau’s oeuvre that the Salem Athenaeum singles out in its records of Hawthorne’s account (69).⁴ Given this documented and protracted interest in Rousseau, it’s fairly safe to say that the eighteenth-century philosopher exerted an influence on Hawthorne’s own ideas of morality, pedagogy, and the social contract.

Hawthorne’s reading list also exhibits an abiding interest in botany and natural history, subjects that dovetail quite nicely with Rousseau’s botanically inclined discourse within *Émile*, as well as his *Confessions*, *Rêveries du promeneur solitaire*, *Lettres sur la botanique*, and *Fragments pour un dictionnaire de botanique*, which Hawthorne may very well have read in Rousseau’s *Works*. Beginning in February of 1830 and continuing through August of 1836, a variety of nature-oriented texts found their way to Hawthorne,

including *Historie Naturelle* (a title so general that it cannot be further specified); Augustus L. Hillhouse's English translation of François André Michaux's influential multiple-volume *North American Sylva, or A Description of the Forest Trees of the United States, Canada and Nova Scotia. Considered Particularly with Respect to Their Use in the Arts, and Their Introduction into Commerce: To Which Is Added a Description of the Most Useful of the European Forest Trees* (1817-19); Linnaeus, which, although unspecified in the records, is probably one of his important taxonomic and classificatory texts on the vegetable kingdom; Thomas Hitt's *Treatise of Fruit-Trees* (1755); James Sowerby's thirty-six-volume opus *English Botany, or, Coloured Figures of British Plants with Their Essential Characters, Synonyms, and Place of Growth* (1790-1814); Thomas Pennant's *British Zoology* (1766); George Shaw and James Francis Stephens' *General Zoology, or Systematic Natural History* (1800); William Bartram's *Travels through North & South Carolina, Georgia, East & West Florida* (1791); Alexander Russell's *Natural History of Aleppo* (1756), an anthropological and epidemiological account of Syria; John Mason Good's *Book of Nature* (1826), a treatise on natural history; Robert Mudie's *Popular Guide to the Observation of Nature; or, Hints of Inducement to the Study of Natural Productions and Appearances, in Their Connexions and Relations* (1832); and Pliny's *Natural History*, through which, "like much of Greek science, the Hellenic botanical tradition survived in Western Christendom" until the turn into the eleventh century, when Aristotle's and Theophrastus' scientific texts in Latin became available to learned Europeans (69-70, 72, 74-78, 80, 82-83; Drayton 5). That Hawthorne selected Sowerby's *English Botany* and Shaw and Stephens' *General Zoology*

several times also indicates a sustained interest in these subjects, as does the three-month period in which he kept Pliny's *Natural History* (74-75, 78, 83).

Moreover, part of the allure of several of these texts lay in their vital contributions to the scientific advancements of their respective fields. Linnaeus's binomial, taxonomic classification of plants by their organs of sexual reproduction revolutionized the study of botany, helped popularize the study of botany in England, its American colonies, and the young United States, and gave rise to the Swedish naturalist's renown as the father of botany.⁵ As Elizabeth Keeney points out,

the beauty of Linnaeus's system was its simplicity. Flawed as nineteenth-century scientists would find it, it was embraced by eighteenth-century naturalists for the ability it gave them to impose order on a seeming chaos of specimens. It required no special skill or equipment and it allowed the rapid pigeonholing of specimens. This enabled the observer to get a name fast—an attribute that would ensure its popularity among amateurs and educators long after it had ceased to be on the cutting edge scientifically.

(10)

So culturally well known was Linnaeus's repute that it would have been more curious if the intellectually hungry Hawthorne had not sought out the naturalist's work at least once. Similarly, Michaux's *North American Sylva* "long remained the most comprehensive study of American trees in the Northeast" (Irmscher 49). The highly regarded Michaux, a member of Philadelphia's American Philosophical Society, the

Royal Agricultural Society, and a correspondent of the Institute of France, brought to his text the cachet of his impeccable credentials and his family name. With his father, André Michaux, the younger had traversed the North American continent at the behest of the French government to study “the forest resources of North America, especially the oaks, with a view to reforesting France’s lands that had been ravaged by war.” During their travels father and son “became the first naturalists to locate and document many rare American plants” (LuEsther T. Mertz Library; Irmscher 49). The resulting texts that the elder produced in Paris in the early nineteenth century—*Historie des chênes de l’Amérique* (1801) and *Flora boreali-americana* (1803)—represent the earliest substantial investigations of North American flora on record, as do those of his son (LuEsther T. Mertz Library). Similarly Sowerby’s *English Botany*, like *North American Sylva*, gorgeously illustrated with colored plates—the former, hand colored and primarily “drawn and engraved by Sowerby himself”; the latter, printed in color, retouched by hand, and drawn by noted botanical artists Pierre Joseph Redouté, Henri Joseph Redouté, and Pancrace Bessa—immediately became an authoritative reference, a status that continues “to the present day.” Indeed, not until Stella Ross-Craig issued her 32-part *Drawings of British Plants* (1948-1973) did a “complete British flora giving both detailed analyses and a life-size portrait of each species” replace Sowerby as the undisputed illustrated standard (Saunders 132; see also Blunt 190-93). The “indomitable” British zoologist Thomas Pennant, in addition to his groundbreaking *British Zoology*, wrote pioneering texts on North American zoology, including *History of Quadrupeds* and *Arctic Zoology* (Greene, *American Science* 281, 277). Finally, Bartram’s *Travels*, an eclectic combination of “taxonomic classification, botanical description, ethnographic

field note, narrative report,” and “lyrical vignette,” proved a popular text that provided important new insight into zoological and botanical specimens throughout the American South—particularly concerning birds, amphibians, and reptiles—as well as influenced Wordsworth and Coleridge, earned the praises of Thomas Carlyle, and assuaged the popular appetite for travelogues from places both untrammeled and exotic (Irmscher 38; Greene, *American Science* 279; Irmscher 5, 37). For a sea captain’s son whose penchant for travel to exotic places was bound, unlike his father’s, to the printed word, Bartram’s *Travels* would satisfy Hawthorne’s armchair interest in travel literature as well as his more active interest in botany.⁶

Although Hawthorne was not one for fads,⁷ his deep appreciation for flowers and gardening synchronized well with an American enthusiasm for botany rooted in the colonial era. “From the seventeenth century on, men like John Banister, John Clayton, and John Mitchell in Virginia”; John Winthrop, Jr., in Connecticut; “John Bartram and his son William in Pennsylvania; John Brickell in North Carolina; Cadwallader Colden (aided by his daughter Jane) in New York; and Cotton Mather and Manasseh Cutler in Massachusetts sent specimens and descriptions of plants, animals, and fossils to Europe,” which “helped to make possible such basic works in natural history as John Ray’s *History of Plants* and Linnaeus’s *Systema Naturae*” (Greene, *American Science* 254; Stearns 119-39). American women also contributed to these transatlantic botanizing networks in a variety of capacities. Susan Scott Parrish points out that Jane Colden—far from the inferior assistant to her father that historian Bruce Greene’s parenthetical aside typographically signifies—is known today as “America’s first woman botanist” because of her “340 detailed descriptions of floral anatomy and ink outlines of flora; her first

identification of *Hypericum virginicum* (the marsh St. Johnswort) and *Coptis groenlandica* (goldthread); and her observations about generic and familial distinctions in plants native to New York that survive in a manuscript saved by a Prussian officer during the American Revolution, passed on to Joseph Banks, and then housed at the British Museum” (unpag.). Like New York’s Jane Colden, South Carolina widows Martha Daniell Logan and Hannah English Williams collected and identified botanical specimens, which “were sent to Europe, engraved and printed in journals, housed in collections, or planted in botanical gardens”; these knowledgeable women also corresponded with and were consulted by learned men of botany, and in so doing supported within the field of serious botanical endeavor a fruitful mutual dependence between Great Britain and the United States. Furthermore, these elite women themselves were at times supported by slaves and servants, who collected specimens when their mistresses were otherwise engaged (Parrish unpag.; n27). The labor of these overlooked socioeconomic classes in the transatlantic scientific and commercial arenas doubtless furthered immeasurably British and American botanical advances.⁸ Old World printing houses were no less dependent on New World aid. Printers in London and Leyden as well as the journals of learned societies in Europe published information originating from American sources. Even Ben Franklin’s *Pennsylvania Gazette* was “integral to the development of an experimental science” like botany despite the “limited exposure” of such subjects in the press (Ferro unpag.).

While intellectual curiosity about North American animals was high, as Hawthorne’s repeated return to Shaw and Stephens’ *General Zoology* attests, “botany was the most popular subject of investigation” and continued to be “the favorite study of

most American naturalists” in the early days of the new Republic and during the antebellum era as well. This pursuit was inestimably nurtured and stimulated through the exchange of “specimens and information” at botanical gardens and nurseries in Philadelphia, Boston, New York, Lexington, Charleston, and Washington, DC; the establishment of learned and scientific societies,⁹ such as Philadelphia’s American Philosophical Society, “the sponsor and publisher of much botanical exploration”; and botanical coverage in scientific, medical, and agricultural journals, including the *American Journal of Science*, *Medical Repository*, and *Country Gentleman* (Greene, *American Science* 48-52, 83-84, 89, 124, 109, 423-24n52; Keeney 26-29; see also Greene, “Science”). Despite the political break between Great Britain and the United States, British and American natural philosophers maintained their transatlantic networks, which helped American science to evolve and British botanical exploration to continue (Greene, *American Science* 7-10). Arguably, Great Britain’s botanizing craze in the late eighteenth century, spurred by the popularization of the Linnaean system and developing there throughout the nineteenth century into a broad cultural love affair with flowers and all things botanical, sped more rapidly across the Atlantic to the United States through the scientific channels long established between the two countries (Shteir, *Cultivating Women*; Scourse; Keeney 70). “After rising to fashion during the 1820s,” botany then became “the most popular science in America for recreational and pedagogical purposes”—Hawthorne, recall, read botany in his leisure time—and “remained such throughout the century,” aided and extended by pirated, imported, and American-based publications ranging from botanical treatises to textbooks for seminary and college courses to botany books especially for children to dictionaries extolling the so-called

language of flowers to manuals teaching the arts of flower painting and wax flower construction to garden advice books.¹⁰ Literary and agricultural journals and popular periodicals for so-called niche groups like women and children also helped spread the botanizing buzz. Thus interested readers of *North American Review*, *Southern Literary Messenger*, and *Western Farmer and Gardener* as well as *Godey's Lady's Book* and *Youth's Companion* could learn the latest news on botany and horticulture, avenues supported more vigorously with the establishment of vital scientific institutions like the Smithsonian in 1846, which, through S. F. Baird, acted—as did Harvard's Asa Gray, “America's most famous and visible botanist”—as “national botanical clearinghouses” of plants and information for regional and individual authorities as well as local botanizers (Keeney 29-33, 34; Kirkham). Given botany's transatlantic appeal to various populations within privileged classes, Hawthorne's pedagogical twist on floriculture in his *Wonder-Book* reflects his own participation in, as well as his anticipated audience's genteel preference for, a vital British and American cultural phenomenon.

As leisure-time botanizing flourished, so too did letter writing among botanizers in Europe and America across the eighteenth and nineteenth centuries. Between August of 1771 and April of 1773, for instance, Rousseau taught elementary botany to his friend Madame Delessert through a series of eight letters, which she then turned into lessons for Marguerite-Madeleine, her four-year-old daughter (*Botany*; McMullen 16). By the mid-eighteen hundreds, Asa Gray's “enormous botanical correspondence included men and women, young and old, from California to Maine, who sent specimens in return for help or merely for the purpose of establishing collegial contacts” (Keeney 34). Botany also blossomed in personal letters between good friends, who exchanged along with their

seeds, roots, and plants both botanical information and emotional approbation. In 1848, an eighteen-year-old Emily Dickinson, writing to “close friend” Abiah Root about her holiday from school, teasingly challenged her confidante to a botanical quest: “While at home there were several pleasure parties of which I was a member, and in our rambles we found many and beautiful children of spring, which I will mention and see if you have found them—the trailing arbutus, adder’s tongue, yellow violets, liverleaf, blood-root, and many other smaller flowers” (Farr 96; qtd. on 97).¹¹

Yet letters could germinate more than the sprightly games of young ladies. Early on in the decades’-long transatlantic friendship between Maria Edgeworth and Rachel Mordecai Lazarus, a German American Orthodox Jew living in North Carolina, Lazarus discusses her reverence for the Edgeworths’ pedagogical and literary merit as well as her desire to ship Maria “several curious productions of our soil: among others, that singular species of Mimosa, the Venus’s fly trap (*Dionaea Muscipula*) which is found in great abundance in the open fields.” In this resonant literary moment, botany, childhood, and families unite, for, although Lazarus does not ship a botanical gift just yet, she does tell Maria in her letter that she and her husband have given their infant son—who already bears “the family name of Marx”—the additional middle name “of *Edgeworth*,” a singular figurative grafting of virtuous and scientifically oriented Old World stock onto a beloved sprout of the North Carolina soil (29 July 1822; Lazarus 31).¹² Within a year and a half, Maria returned the favor by promising to send Lazarus copies of *Dialogues on Botany* (1819) and *Dialogues on Entomology* (1819), books written, respectively, and published anonymously by Harriet Beaufort and Louisa Beaufort, Maria’s aunts through her third step-mother, Frances Beaufort Edgeworth. In revealing the authors’ identities,

Maria takes Lazarus into her family's confidences, an intimate "favour" of which Lazarus is highly sensible and greatly appreciative. Throughout their lengthy correspondence, Maria and Lazarus exchanged with various plants, seeds, bulbs, moss, and insects their confidences and their affections and thereby planted and tended a thriving family friendship that outlasted Lazarus's death in 1838 and Maria's in 1849 until it lapsed, finally, upon the death of Lazarus's great-niece Rosina Mordecai in 1942 (52, 62; MacDonald xvii, xv). With its ability to stimulate both intellectual and emotional interests, botany proved to be a mutually beneficial and improving pastime in the nineteenth century, which made the science a particularly apt topic for Hawthorne to trade upon in the juvenile book market.

Indeed, conscious of botany's appeal, antebellum American educators fostered increaseng study of the subject in seminaries and academies. Students wishing to learn botany during the era of the New Republic generally had done so at home, for relatively few institutions offered courses then. Those that did tended to be either medical schools, which focused on herbs and other plants commonly made into drugs, or colleges, which tended not to schedule such classes regularly. During the 1820s and 1830s, however, secondary education itself "expanded exponentially," spurred by early industrialization; "new forms of large-scale production and wage labor"; growing native-born and immigrant populations on the move; and more widespread notions of spiritual and intellectual possibility stemming from the second Great Awakening (Struik 225; Keeney 54; Montgomery 62, 56). As academies and seminaries multiplied, educators added new scientific subjects to the curriculum, including astronomy, chemistry, and geology, yet "the rise in the popularity of botany" in schools was "far greater than that of any other

area of science.” Thus during the 1830s, botany “entered the secondary-school curriculum and became a standard subject” just as the lyceum movement, emerging in the late 1820s and early 1830s, gave larger audiences the opportunity to learn about or supplement botanical and other new scientific knowledge through series of lectures and demonstrations. As Scott L. Montgomery observes, “Nature came to have an immediate and concrete meaning: The science of plants, rocks, stars, animals, and machines was something that all Americans could share and trade among themselves” (Keeney 54; Tolley 134; Keeney 56, 54; Struik 267-69; Montgomery 64-67, 67). Botany, however, gained a special place in people’s hearts and minds because pursuing it, as both authors and educators would attest, could lead to a transformation of pursuers’ internal landscapes, an attractive idea in an era concerned with perfectionism and reform.

Thus American textbooks heralded botany’s many improving qualities, ideas that English Quaker Priscilla Wakefield popularized for general audiences in her widely influential *Introduction to Botany, in a Series of Familiar Letters* (1796), the “first botany book written by a woman to provide a systematic introduction to the science” (Shteir, *Cultivating Women* 83). Coincidentally, this well-known author of young people’s natural history books was cousin to Lucy Barclay Galton—wife of Lunar Society member Samuel Galton and with him parent to Mary Anne SchimmelPenninck, who recorded for posterity her love for *Sandford and Merton*, the stoic pedagogy of “the little Spartan Boys,” and the origin of the nickname “Lunatics” for Lunar Society members (SchimmelPenninck 1:325, 1, 10-11, 28, 32, 5, 7, 37; see Chapter I). Wakefield’s affiliation by marriage with the Lunar circle, a fact that scholars do not know or have not found of interest, adds further cultural cachet to her interest in and propagation of botany

to young people, for it links her with a progressive educational ethos generally not associated with her.¹³ Wakefield explains in her *Introduction to Botany* the Linnean classes, orders, and genera and illustrates examples of species and varieties with native plants, such as primroses, as she propounds the many spiritual, emotional, and moral virtues that botanizing will incur. Perhaps the most important benefit by virtue of immediate mention in the text is that botany will “cultivate a taste” for “the study of nature, which is the most familiar means of introducing suitable ideas of the attributes of the Divine Being, by exemplifying them in the order and harmony of the visible creation” (iii). This “narrative of natural theology,” as Barbara T. Gates calls it (39), was prominently featured in antebellum American textbooks, for it “made highly desirable the inclusion of the sciences into the curriculum” (Tolley 132, 131). Paired with children’s “curiosity and activity,” Wakefield exhorts that “none can be better adapted to instruct, and at the same time amuse, than the beauties of nature, by which [children] are continually surrounded” (iii). Another benefit: “it contributes to health of body and cheerfulness of disposition, by presenting an inducement to take air and exercise” (iv). As Elizabeth B. Keeney avers, “the gentle exercise of collecting appealed to [an American] society concerned about female health, especially that of schoolgirls”; thus doctors and educators suggested that girls take up botany to add spice to the two or three hours of walking per day that they recommended (74). Almira Lincoln Phelps, a teacher at sister Emma Willard’s renowned Troy Female Seminary in New York, echoes Wakefield’s emphasis on exercise and the American concern with female health in her successful textbook *Familiar Lectures on Botany* (1829). “The study of Botany seems particularly adapted to females,” she writes. “Its pursuits leading to exercise in the

open air are conducive to health and cheerfulness. It is not a sedentary study which can be acquired in the library, but the objects of science are scattered over the surface of the earth, along the banks of the winding brooks, on the borders of precipices, the sides of mountains, and the depths of the forests” (qtd. on Keeney 74). Additionally, botany was “an antidote to levity and idleness” (Wakefield v); thus the antebellum middle class could enjoy the science as a productive means of moral self-improvement that was conducive to the pervasive idea of the Northern work ethic (Keeney 83, 84; Rodgers 14, 94-96, 130-31). Jacob Abbott’s ubiquitous Rollo, for instance, loved to botanize with his friends; in *Rollo’s Museum* (1839), the children bring to botany an unrivalled “intensity, organization, and interest,” which leads to the “reward” of learning and “a pride in achievement” (Keeney 85-86, 86). Another aspect of botany’s moral utility was its easy accessibility. “It is adapted to the simplest capacity,” Wakefield asserts, “and the objects of its investigation offer themselves without expense or difficulty, which renders them attainable to every rank in life” (iv). This democratic notion certainly dovetailed with the democratic ethos propelling the lyceum and common school movements in the United States in the antebellum era (Montgomery 62-77). Indeed, American authors equated improved citizenship with the self-sufficiency and usefulness that botany could foster (Keeney 112-20). Botany advocates also exhorted the mental orderliness, regularity, and acuity that the science would develop within students. Wakefield suggests “perseverance and patience,” daily practice, and, careful memorization of each idea to propagate intellectual rigor (3, 25-26, 31, 32). Through this step-by-step memorization of the elements of Linnaean botany, Almira Lincoln Phelps agrees, botanizers will “accustom[...] the[ir] mind[s] to systematic arrangement, definite rules of

classifications, and strict attention to the import of terms” (qtd. in Keeney 45). Finally, Wakefield also notes the importance of attentiveness to the natural world, lamenting in a pre-Sherlockian vein that “common beholders” see the structures of leaves and flowers “constantly, without observing them” (17).¹⁴ American authors also saw the value in curiosity and propounded as well the necessity of observation. “Many boys and girls go through the world, almost without seeing it,” states one botanical advocate. “Now he who has eyes and does not use them, in such a beautiful world as this, is very much to be pitied. But the study of Botany will learn him to keep his eyes open. The habit of noticing things around you is called observation; and a very important habit it is too” (qtd. in Keeney 46). Indeed, American children’s writers and publishers idealized the bright, robust American child as “wide awake,” an adjective connoting mental order and acuity as well as keen observational skills, aptitudes congruent with botany’s benefits.¹⁵ United in self-cultivation, botany’s multi-faceted virtues promised to perform holistic transformations within its practitioners that would help perfect Americans and, by extension, those domestic sites in which they dwelled and botanized.

Moreover, families themselves could introduce their distaff sides to botany and botanists through personal interests and family networks if “formal botanical training” was inaccessible, as Ann B. Shteir points out in an English context (“Botanical Dialogues” 307). Sophia Peabody Hawthorne and her sisters, Mary Tyler Peabody, who later married education reformer Horace Mann, and the Transcendentalist Elizabeth Palmer Peabody, enjoyed botanical interests at home and at school because their parents, Nathaniel Peabody and Eliza Palmer Peabody, were progressive educators who encouraged their daughters to learn Latin, Greek, and other European languages, as well

as various scientific subjects, including botany. Eliza Palmer Peabody also adored flowers, so botany easily channeled a maternal enthusiasm in a scientific direction (Tharp 16-55; Hawthorne *Letters* 15:173). Thus the Peabody sisters were part of “a small and privileged circle of girls in Salem,” Massachusetts, who pursued a surprisingly varied, rigorous “course of study” that “rivalled the contemporary curriculum of the most highly respected educational institutions training young men” (Maloney 3). Mary proved to be the family’s most enthusiastic botanizer, immersing herself in the subject in the mid-1820s when she succeeded her sister Elizabeth as the governess to the children of Dr. Benjamin Vaughan (Tharp 32). This grand old man of Hallowell, a town on the Kennebec River, counted among his dear friends Joseph Priestley, Richard Price, and Benjamin Franklin and was “a constant friend” of Bowdoin College, in part, perhaps, because his brother, Charles, was “long an active member of the [institution’s] overseers” (Cleaveland 81, 82). Generous and eager to aid Mary in her botanical quest, ““Uncle Benjamin”” gladly shared with her “his books on horticulture and botany,” which comprised but a fraction of the more than ten thousand volumes that Vaughn had in his library and attic (Tharp 31-32, 31). By 1825 Mary had taken up German in order to study the most current botanical texts, and she happily taught her favorite science at the small school that she and Elizabeth opened in a section of Boston now located in “the middle of Brookline.” In 1825, however, the school sat on “an enchanting spot at the end of a country lane beside a brook,” a perfect area in which to conduct botanic rambles with students (36, 35). Mary also wrote a botany book for children entitled *The Flower People: Being an Account of the Flowers by Themselves; Illustrated with Plates* (1842), which Elizabeth sold in her West Street shop in Boston (148). Issued at least six times

between 1842 and 1888—including four imprints bearing Mary’s married name (Mrs. Horace Mann), doubtless to capitalize on her husband’s reputation as an education reformer and, after 5 September 1853, the first president of Antioch College—*Flower People* “delightfully” married “fancy and fact” and was numbered thirteenth in *North American Review*’s list of “Children’s Books of the Year” for 1865 (*NUC* 359:222-23; Tharp 234; “Children’s Books” 245, 236).

Sophia did not write a book on botany, per se, but her intense love of flowers and her studies in botany coalesce in her “Cuba Journal,” a series of 56 letters that Sophia sent home between December 1833 and April 1835, when she accompanied Mary to San Marcos, Cuba, after her physician suggested that the tropical air would improve her health. As Claire Badaracco describes, the journal was a three-volume “family souvenir,” which family members had compiled and “bound between half-calf and paper boards, with the respective volume number and title, ‘Letters from Cuba,’ embossed upon the spines” (58, 56, 57). It is with the “Cuba Journal,” perhaps, that Sophia’s “rich, subtle, and pervasive” influence on Nathaniel Hawthorne’s “understanding and use of the visual arts” began, for in 1837, future sister-in-law Elizabeth entertained Hawthorne and his sisters Louisa and Elizabeth for the first time in the Peabody home by reading aloud from Sophia’s Cuba letters and sharing a copy of Flaxman’s “Greek Poets” that Sophia was borrowing from one of her painting mentors, Washington Allston (Valenti, “Artistic Influence” 15; Tharp 115, 116). In her letters from Cuba, Sophia included her own sketches of various plants, including the night-blooming cereus, the Oregon de India, the heliotrope, the Palma Benita, and both cotton and so-called portrait plants (Badaracco 59). She also revealed in her letter of 27 May 1834 a deep mother-daughter bond

epitomized by flowers and reinforced by a solid grasp of Linnaean botanical terminology. As she tells her mother about discovering a surprise in a copy of Washington Irving's *A History of New York* (1809), she waxes ecstatically about the deep emotions that storm her soul:

Yesterday I took up the Knickerbockers, & found some
pressed flowers of yours in them—dearest Mother. I
cannot express to you what a *home* feeling they gave me—
They had been in *your very hand*— I went immediately
back to the little room you wot of, at the head of the stairs,
where you & the flowers were always found together. How
happy I used to be in that cosie house. (qtd. in 61)

Transported to a blissful home of yore by a mother's touch, which magically erases both time and distance through a beneficent floral proxy—much as the steamboat does for the worried mother with an ailing parent at home in *Harry and Lucy Concluded*—Sophia imaginatively transplants her mother's loving presence in Cuba, where no tropical flower can rival the sweet sensation of deep filial affection, *and* transplants herself in her mother's old room in Massachusetts, which also bears an impress maternal and floral. This double transplantation and double reuniting speaks its own language of flowers, promising eternal familial devotion registered in petals and stems, embraced by Irving's book, and secured in Sophia's own hand, which bears, through her subsequent illustration and discussion of the night-blooming cereus, its own imprint both floral and filial. As she explains the particulars of her drawing to her mother, Sophia confidently uses typical Linnaean botanical terms, such as *species*, *lanceolate folioles*, *calyx*, *petals*, *stamens*,

filaments, stigma, which reveal at least an elementary knowledge of the science (62, 64).

While she does not have her sister Mary's expertise—"for a long while I watched the strange looking vine in my daily rides," she says, "because Mary said she knew it must be a species of the Cactus" (62)—she does use the right terms appropriately; and when she doesn't know the term for a specific element, then she describes that element in great detail instead, a rhetorical move of which Harry and Lucy's mother would highly approve (see Chapter II).

A rhetorical emphasis on gardening, botanicals, and the familial pleasures such things bestow recurs as well throughout Hawthorne's family correspondence. While Hawthorne's maternal uncle, Robert Manning, proved to be the most scientifically proficient of the Manning and Hawthorne tribes—he was "a founder of the Massachusetts Horticultural Society" and "soon became known for his extraordinary talent in identifying different varieties and in establishing a coherent and systematic nomenclature. By his death he had collected more than two thousand varieties, with a special interest in pears, but including apples, peaches, plums, and apricots" (Woodson 15:14)—Hawthorne, his mother, and his sister Louisa shared a love for flowers that helped sustain their strong emotional bonds. As early as 1821, the seventeen-year-old Hawthorne wheedled his mother into staying in her current residence by equating her love for her children with a floral paradise. "If you remain where you are," he writes, "think how delightfully the time will pass, with all your children around you, shut out from the world, and nothing to disturb us. It will be a second Garden of Eden" (19 June 1821; *Letters* 15:150). Sophia Hawthorne, following her husband's example after their marriage, often urged her reclusive mother-in-law to visit the newlyweds by appealing to

her love for both her son and flowers. After listing the many comforts that the couple would bestow upon “that dear, precious mother,” Sophia adds this *pièce de résistance*: “Tell her she can sit at her chamber-window & watch Nathaniel in his garden” (17 June 1843; 15:691)—a nod to that second Eden of Hawthorne’s youth in which children and gardens play so integral a role in protected domestic harmony. Sophia also tempts sisters-in-law Louisa and Elizabeth with promises of the floral wonders that they will meet in Concord:

Our Water-lily [a rowboat that Hawthorne purchased from Thoreau] is now beautifully painted & caulked by a sailor-friend of Nathaniel, who, out of devout love to him & his own generous nautical heart,—has been most useful to us. In this newly garnished boat, Elizabeth shall explore the seas & no one shall disturb her. The water-lilies are now abundant, & she can go on voyages & bring back rich freights, for which I will pay her with the gold of thanks. Tell her I do not have a day-visitor once a month, & she cannot conceive how retired she will be here. Cardinal flowers will bloom in August, & the Orchis grows in Concord.

In the event that these tempting words will not prove sufficient, Sophia deliberately “leave[s] a space” at the end of the letter for Hawthorne “to tell [his family] of his garden” (9 July 1843; 15:695-96). Louisa finally does come to visit, giving Sophia, then pregnant with Julian, hope that her sister-in-law will return to help around the house soon

after the new child is born. To sweeten the offer, Sophia adds, “I shall procure your admittance into the great Garden, & into the Conservatory, if it still exist—for you may not have another good chance to visit them after we return to Salem. My mother will be delighted to go with you any where, especially where there are flowers. It will be the very festival of flowers in July” (21 June 1846; 15:173). In casting the Hawthorne home as another secluded Eden with children at its heart, Nathaniel and Sophia participate obliquely in the nineteenth-century botanical craze and, perhaps unconsciously, create in the reader’s mind the ideal domestic natural sphere propounded in *Émile* and, later, in *A Wonder-Book*.

As references to Eden suggest, flowers signified to Hawthorne and his wife more than organic materials; they represented the essence of divinely touched humanity. During their courtship, Hawthorne likened their love to a “flower” that “blossomed amid snow and wintry winds” (3 Jan. 1840; 15:398). Sophia’s attributes were “flowers of Paradise; some in bloom, many in the bud, and all of them immortal” (21 Aug. 1839; 15:338). Yet in Hawthorne’s eyes, this lovely woman was no fragile hot-house exotic like Day’s Tommy Merton; rather, her characteristics stemmed from a hardier New England stock: “Your soul and intellect breathe forth an influence like that of wild-flowers, to which God, not man, gives all their sweetness” ([ca. 30 Aug.] 1839; 15:343). So well did he adore her strengths, which he equated with wild flowers, that he could not decide which aspect of her he preferred: “Which do I love the best, I wonder—my [meek and mournful] Dove, or my little Wild-Flower?” he ponders in a long note to Sophia on 24 Oct. 1839. “I love each best,” he decides, “and both equally; and my heart would inevitably wither, and dry up, and perish utterly, if either of them were torn away from it”

(15:359). In casting Sophia as a wild flower and his emotional self as a plant destined to die without the symbiosis that her metaphoric blooms impart, Hawthorne creates a personal language of flowers in which love can flourish in the soil of natural theology amid another *hortus conclusus* that the leaves of the couple's private correspondence secure.

It's not surprising, then, to see how frequently flowers, gardening, and botanical language play an important part in the newlyweds' lives, particularly as they celebrate their new union in their first house, the Manse, in Concord, Massachusetts. Sophia's journal overflows with references to connubial berry picking, boat rowing, and flower gathering, which, as in this entry from 10 August 1842, elicit in Sophia a botanically knowledgeable and strongly sensual aesthetic response:

This morning my darling husband brought from the river
some pond lilies, pickerel weed, cardinal flowers & one
spike of arrowhead, & I put them all into our alabaster
fountain. One could scarcely see a fairer sight— All these
are river plants & become each other wonderfully— The
superb scarlet of the cardinal flower, the rich purple of the
pickerel weed, & the gold stamens of the lilies makes a
perfect harmony set off by the broad green leaves.

(Valenti, "*American Notebooks*" 129-30)

Similarly, in recollecting the "tender" new foliage of birch trees that she and her husband sat amid one sunny afternoon, Sophia bursts into a botanical reverie. "The leaves so exquisitely shaped, & highly polished & their slender pedaneles giving them such an airy

movement—” she exults. “They look like little pyramids on the wing in etherial dance” (137). As much as Sophia revels in her own floral impressions, however, watching Hawthorne pick the wild flowers that he associates with her seems to fill her with equally intense joy, in addition to enhancing her husband’s attractiveness. On 8 September 1842 she writes, “We left the river & wended through a short lane in which grow the blue gentian with closed bells—or soapwort, & my dearest love gathered all there was. It is very beautiful to see him plucking flowers with so much interest. It adds such a grace to his kingliness” (132). Sophia’s obvious delight in flowers and in her husband is rivaled only by the happiness she feels when they botanize together. Her exuberant discourse reveals as well that Hawthorne is enjoying himself enormously. “I have a new hope,” she admits, “partly from the sun of joy in my dear love’s eyes, for he has sighed much for warm days & flowers & green grass, & now he is very glad” (Apr. 1843; 134). Aglow with the ambient rays issuing from wife and sun, Hawthorne happily engaged in botanical rambles with Sophia and on his own. On some of his lone adventures during May of 1843, Hawthorne discovered a huge patch of columbines growing on a woodland cliff, as well as a bank of “*Thalectroides anemones*,”¹⁶ both of which Sophia and he then plunder for Ellen Channing who, newly arrived in town, had not yet seen either flower (135, 137). Wild flowers, however, are not the Hawthornes’ only botanical venture. In addition to their penchant for gathering massive armfuls of cardinals, pedate violets, housatonias, everlasting, and wood anemones, the two also channel their energies into domestic horticulture. In the spring of 1843, Sophia plants her first flower garden, which puts in, at most, a bedraggled appearance over the summer months. Hawthorne’s vegetable garden, on the other hand, grows so well that the family is “actually overrun with

cucumbers & summer squashes” by late August, and for months makes ample dinners from its plentiful corn, potatoes, asparagus, beans, and tomatoes (138, 141, 143, 138ff.). Hawthorne also tends to the fruit orchards, which flourish under his touch. “About the first of May,” writes Sophia in 1843, “the cherry trees began to bloom & now (19th) pear, apple & peach are all in full glory. I never before saw peach trees in blossom. Two in our large orchard are very superb. They look like fountains of flower-wreaths, throwing out their long branches in noble curves—& snowy white blooms” (136). Hawthorne indeed tended to his garden and orchard with conscience, vigor, and enjoyment, as Sophia’s journals attest, belying Thomas Woodson’s notion that Hawthorne “kept an interest” in Uncle Robert Manning’s fruit trees and experimental garden that “expressed itself” only “at unexpected moments” in his writing (15). Working with plants and trees outside was certainly to be preferred to cutting and sawing wood and “clearing away old rubbish,” which Sophia noted her husband “hatest...rightfully” (Valenti, “*American Notebooks*” 135), a passion doubtless created at Brook Farm in 1841. Whether gleaning wild flowers or garden vegetables, the Hawthornes nourished their love and their bodies with fruits of the soil and thus shot forth the first roots of their own domestic Paradise, which Sophia lovingly termed “our Eden” (130).¹⁷

The advent of children only created more opportunities for the Hawthornes to wax botanically. In rhetoric reminiscent of Dickinson’s “children of spring,” Sophia notes in her journal that with the birth of their first child, their daughter Una, on 3 March 1844, “we were very glad to have her a spring-flower, blooming at the time of the coming of birds” (Valenti, “*American Notebooks*” 147). Sophia also triumphantly asserts to her sister-in-law Louisa that “from th[e] moment” her “nourishing, rich [mother’s] milk came

rushing along,” Una “has grown & flourished like a flower” (15 Mar. 1844; Hawthorne, *Letters* 16:19). Five months later Sophia wrote again, this time noting that her daughter “is in herself a perfect rose & lily of fragrance”; her breath, “like the perfume of a pond lily” (4 Aug. 1844; 16:61)—a comment that appears unconsciously self-reflexive, for it reiterates a decidedly floral notion of Hawthorne’s captured in a long love letter to his intended on 30 May 1840. “Dearest,” he says, “thy last letter had the fragrance of a bank of violets—yea, of all sorts of sweet smelling flowers and perfumed shrubs. I can lie down and repose upon it, as upon a bed of roses. It rejoices me to think that my whole being is not enveloped with coal-dust [from measuring coal at the Boston Custom House], but that its better half is breathing the breath of flowers” (15:465). The birth of Hawthorne and Sophia’s second daughter also prompted floral thoughts. As he wrote to Mary Wilder Foote on 25 May 1851, “Sophia has requested me (and I take great pleasure in it) to announce to you the birth of a little daughter, whom we call Rose—or rather, at the present stage of her development, Rosebud” (16:439). To sister-in-law Elizabeth Palmer Peabody he admitted, somewhat wistfully, that Rose “is my last and latest, my autumnal flower, and will be still in her gayest bloom, when I shall be most decidedly an old man” (25 May 1851).

Notably, neither Hawthorne uses floricultural metaphors in reference to son Julian, who bears the pet names “small troglodyte,” “the Black Prince,” and “Bundlebreech” (16:173, 192, 201 *passim*). This gendered association of flowers and females supports scholarly contentions that English and American botany, flower painting, and floral language books were increasingly identified in the first half of the nineteenth century as “ladylike pastime[s]” (Keeney 69-82, 70; Bermingham 202-10).

Yet, as Keeney makes clear, men and boys participated in the “messy” side of botany, venturing into rugged, wet, or rocky places deemed unfit for the more delicate sex in order to secure choice specimens (78, 75-77). Thus we see Abba Alcott’s brother, Junius, “spr[i]ng out [of the rowboat “anchored in a baylet”] and pull[...] up a ‘conclave of cardinals’” for the recumbent Sophia (Valenti, “*American Notebooks*” 130). Likewise, Sophia’s “noble & kingly husband” exhibits his manliness by discovering and then bringing to his wife’s attention luxurious collections of wild flowers growing in such rough spots as “a rocky field on the banks of the river near the battleground” or “a cliff in the wood” (130, 136, 135). Depending upon her constitution on a particular day, however, Sophia, too, followed her husband into danger on their botanical pursuits. When her “darling husband finally saw [that] cliff in the wood,” the determined wife says, “we went in & climbed it, & there we found were many columbine plants, but no sign yet of a flower” (135). Sophia’s matter-of-fact tone here attests to the unspectacular nature of her own vigorous exercise. More typical for her, nonetheless, were gentler botanical rambles more in line with prevailing ideas of feminine gentility and outdoor activity (Keeney 74-75). By August of 1852, she was giving her daughter Una botany lessons—the first one that Sophia mentions in her journal concerned “Calyxes”—thereby continuing with the family’s passion for flowers, botany’s own moral lessons in the next generation (Valenti, “*American Notebooks*” 160; see also 176). Sophia’s intensely emotional, aesthetic, and sensual response to flowers in general also indicates an alignment of femininity with traditional Western ideas of female sexuality. The wanton Eve in Milton’s *Paradise Lost* wears her libido in her curls, which tumble riotously, like abundant vines, about her lithesome form.¹⁸ This Eve springs to mind when reading

about Sophia's own connubial bliss, intimately confined within the leaves of her journal. She confides to herself in April of 1843, "I myself am Spring with all its birds, its rivers, its buds, singing, rushing, blooming in his arms. I feel new as the Earth which is just born again—I rejoice that I am, because I am his, wholly, unreservedly his— Therefore is my life beautiful & gracious. Therefore is the world pleasant as roses" (Valenti, "*American Notebooks*" 134). Legitimated sexually through the legal and spiritual bonds of marriage, Sophia can best describe her newfound physical and emotional self as a vibrant flower in the fresh natal bed of Eden. Given the multiple floral associations that both Hawthornes entertain within a genteel culture already prone to classify femininity with domesticity and floral delicacy, it is hardly surprising that the couple directs their floral metaphors to the female members of the immediate family.

Hawthorne the author, however, also refers to the imagination and its literary products as botanical specimens. For example, in a letter to friend George Hillard dated 24 March 1844, he rebuts his friend's contention that "poetry ought not to be brought into common life," Hillard's initial response to the news that the Hawthornes had named their first daughter Una. As far as the new father and hopeful author is concerned, "if flowers of Eden can be made to grow among cabbages and squashes, it will please me so much the better; those excellent vegetables will be just as good to eat, and the flowers no less delightful to see and smell" (*Letters* 16:22). Here poetry, infancy, femininity, flowers, and Paradise conflate, rendering the baby girl both a sentimentalized organic body and a tempting fruit, so to speak, of a natural sexual reproduction rendered spiritual and earthy under the power of the pen. To editor and critic Evert A. Duyckinck, Hawthorne continues his botanical metaphor, this time in regard to his own essays and short stories.

Believing that he is leaving the writing profession to procure a more stable income with which to support his burgeoning family (Sophia was then pregnant with Julian), Hawthorne rates his literary production as “utterly” unsatisfactory, a comment he then illustrates with floricultural panache: “If they were merely Spring blossoms, we might look for good fruit hereafter; but I have done nothing but blossom all through the summer. I am ashamed—and there’s an end” (24 January 1846; 16:140). Hawthorne’s metaphorical suggestion that he perverts the natural process of plant reproduction by lacking the fertile ripeness requisite to produce fruit, a plant’s culminating stage in a growing season, reveals how badly he feels that, in his eyes, his literary production falls short of its imaginative potential. A month later, when Hawthorne sends Duyckinck the second part of *Mosses from an Old Manse*, which the editor published with part one as volumes seventeen and eighteen of Wiley and Putnam’s new series “Library of American Books,” the author reverts again to horticultural imagery in proffering suggested titles for his collection. “I have bestowed much and solemn consideration upon the title of the book,” he states. “‘Wall-Flowers from an Old Abbey’ occurred to me;—but it is too fine. ‘Moss and Lichens from an Old Parsonage’;—that does not go off trippingly enough. ‘Mosses from an Old Manse’ suits me rather better,” a sentiment with which Sophia agreed (Woodson 15:70, 71; 22 February 1846; *Letters* 16:146). In these titles, critic John C. Willoughby sees no self-condemnation or imaginative shortcoming. Rather, he believes they are “valuable to Hawthorne because they suggest an organic wholeness, an independent force of being, at the same time that they point to a dependence [upon the reader] which is at once vital and vulnerable.” In the initial story “The Old Manse” in particular, Willoughby casts the author as a “beneficent gardener—whether grower of

flowers, fruit, squashes, or even weeds,” for this conceit “further suggests the related idea of the reader as bee,” actively engaged in “the aesthetic experience” that the text provides (51, 52). To substantiate the idea that the artist’s crop is worthwhile, Willoughby reminds us that mosses, so integral to the volume’s title, are “unobtrusively beautiful plants, hardy and tenacious, yet requiring conditions for survival that are not present in all atmospheres” (53)—just as survival as an author in the literary marketplace is not possible unless cultural, economic, and critical atmospheres coalesce in a friendly, lucrative, and receptive climate created by editors, publishers, reviewers, booksellers, and purchasers. To wait for *that* atmospheric condition, however, one would have to be hardier and more tenacious than Hawthorne, who at the time viewed his *Mosses*—despite the hallowed “associat[ion] with age, the passing of time, and history” that *moss* itself represents—as “vagrant progeny” bound in all probability for a future compost heap rather than an exquisite and fertile encounter between text, author, and audience (Willoughby 53; 24 January 1846; *Letters* 16:139). Indeed, writing to Longfellow from his post at the Salem Custom House on 5 June 1849, Hawthorne unleashes his pent-up frustration with unappreciative readers and critics—whom he fears are incapable of valuing “a true work of genius” like Longfellow’s newly published *Kavanaugh: A Tale* (1849)—by conjuring a clutch of nasty botanical metaphors to signify noxious creative works: “If they will pay no reverence to the imaginative power when it causes herbs of grace and sweet-scented flowers to spring up along their pathway, then they should be taught what it can do in the way of producing nettles, skunk-cabbage, deadly night-shade, wolf’s bane, dog-wood” (16:269, 270). Thus plants both delightful and dreadful

metaphorically represented for Hawthorne a variety of authorial productions ranging in quality and acceptability in his mind and the minds of others.

As we have seen, flowers and family, letters and botany, children and gardens, and emotions and imagination coalesce in fluid, intensely signifying roles in Hawthorne's experiences as son, brother, lover, husband, parent, and author. Hawthorne thus participates in a transatlantic botanical phenomenon, albeit obliquely at times; that he trades upon the appeal of that phenomenon in *A Wonder-Book* makes a great deal of sense, for botany's widespread pedagogical reputation as a moral restorative and an excellent intellectual, spiritual, and emotional self-cultivator readily transfers to the white Protestant middle-class ethos inundating the juvenile book market. With these ideas in mind, we can turn to *A Wonder-Book* and glean more meaningfully the ways in which Hawthorne uses botanical discourse to resituate the site of fictive children's mental and moral exploration from Edgeworth's explicitly scientific experiments in a concrete world to the airy realm of juvenile imaginations.

A Wonder-Book for Girls and Boys

In *A Wonder-Book* Hawthorne plants Eustacé Bright and the children in an idealized Lenox, Massachusetts, a rural setting evocative of Rousseau's chosen domicile for Émile and recognizable as the American counterpart to Thomas Day's equally fictitious arable England. Along with the house and surrounding area, dubbed Tanglewood, the country atmosphere is designed to invoke organic imaginative reverie and energetic action. The text opens upon an autumn morning so blanketed with mist that, from Tanglewood's "country-seat," distant mountains appear as floating summits and cloud-wreathed peaks

amid a “vapory sea.” That imagination is the visionary power here is suggested almost immediately. “On the whole,” Hawthorne writes, “there [is] so much cloud, and so little solid earth, that it ha[s] the effect of a vision” (5, 6). This lingering, dreamy atmosphere subtly whispers to readers the imaginative potential suffusing this sphere, a promise met and invigorated by the sun’s vibrant energy. First seen peeking through the mists amid “a few ruddy or yellow tree-tops, which here and there emerge[...], and [are] glorified by the early sunshine” (5), the sun’s ambient light grows higher and brighter as Eustace spins his first myth, eventually gilding, by story’s end, a luminescent landscape:

A scene was now disclosed, which the spectators might almost fancy as having been created, since they had last looked in the direction where it lay. About half a mile distant, in the lap of the valley, now appeared a beautiful lake, which reflected a perfect image of its own wooded banks, and of the summits of the more distant hills. It gleamed in perfect tranquillity, without the trace of a winged breeze on any part of its bosom Over all this scene there was a genial sunshine, intermingled with a slight haze, which made it unspeakably soft and tender. Oh, what a day of Indian Summer was it going to be! (35-36)

The vista appears as clean and clear as the first morning in the dawn of creation. Serene and secure in a warm, autumnal embrace, the lake embodies a Thoreauian eye on the world, capable of reflecting back only the wonder of nature’s design. The swelling

mellow light perfectly encapsulates the moment as Hawthorne's succinct description conjures up rich multiple nuances. "Unspeakably" ushers into the scene a hushed sanctity, a breathless portentousness, and an indescribable wonder that, when linked with "soft and tender," infuse the atmosphere with the thrill attending a newborn's entrance into the world. With those four words, Hawthorne suspends readers, oh so briefly, in an emotional bubble bewitchingly radiant with joy and hope. "This is the place," he seems to say, "where every child should live and grow, in tune with the extraordinary book of nature that, through the example of this textual and emotional reverie, stirs the blood and the keen sense of living." As if to follow up on that premise, Hawthorne breaks the spell with a lively exclamation that reorients readers from their inner dreamscapes to the plane of future action and choice. Vibrant *and* visionary, the very air teems with the fertile stuff of dreams already tapped into by Eustace's first story. Hawthorne has created here an Edenic wonderland, where Rousseauian imaginative enterprise can stretch the very limits of possibility.

Populating this fecund world are twelve children, supervised by college student Eustace Bright, who embody the best attributes of Tanglewood's garden setting. The gothic wildness, freedom, and boundlessness connoted by the word *tangle* in Tanglewood meets in *wood* the connotations of nature's purity, order, and divinity so culturally resonant through popular ideas about botany and natural theology.¹⁹ The result: the perfect milieu for rigorous imaginative play safely contained and domesticated through the comforting closeness of the genteel "mansion" (Hawthorne's upgrade from Sandford's pastoral, rustic cabin) and, for readers, the encompassing embrace of the text's pages. A sinister Gothic underbelly, however, does not trespass in this mythically

“beautiful and *comfortable* world” (5; my emphasis). This setting invites development precisely because it is safe and reassuring. Thus unruly violence does not, because it cannot, incline toward frightening, rampant profusion. The children, perforce, tumble about a metaphoric prelapsarian garden, but they are rooted *to* it through the emotional, spiritual, and physical security it represents. Moreover, these connections are strong; and, as with roots in the botanical world, manifest that strength in healthy blooms. Those blooms thus figure metaphorically in the children’s names, which Hawthorne takes from American wildflowers. From Primrose, Dandelion, Sweet Fern, Squash Blossom, Blue Eye, and Butter-cup to Cowslip, Plantain, Periwinkle, Huckleberry, Milkweed, and Clover, these floral names symbolize the children’s wholesome, thriving connection to Tanglewood’s domestic domain and the healthy cultivation from which they obviously benefit in this *hortus conclusus*.

Springing from this healthy foundation, the children exude a vivacious *joie de vivre* that mirrors the countryside’s brimming vitality and signifies the energetic confidence of the New England Yankee. “Impatiently waiting” for the mists to clear and a nutting expedition to begin, the children’s high spirits soon accelerate into action (5). “Being as full of life as they [can] hold, [the children] ke[ep] overflowing from the porch of Tanglewood, and scampering along the gravel-walk, or rushing across the dewy herbage of the lawn” (6). They engage with life in the progressive tense, *overflowing*, *scampering*, and *rushing* as if rehearsing in miniature the eventual quests for success that lie in their respective futures.²⁰ Yet this perpetual motion expresses a magical fluidity, a fey quality more aligned with the world of faery than that of machinery. Hawthorne may playfully assert that the youngsters’ floral names “might better suit a group of fairies than

a company of earthly children” (6), a comment that Sarah A. Wadsworth may be thinking of when she says the names are “whimsically Shakespearean” (11); but both his whimsical tone and the children’s irrepressible vigor suggest that fairies and these botanical juveniles share more than an association with flowers. Periwinkle and pals *zip* along, merrily changing direction and mode at will, as if sprinkled with the power of fairy dust. Unlike lumbering machines—say, Harry’s steam engine, for example—they retain individual agency as well as innate grace; they therefore have the will and the ability to control a continuous flow of energy so *dynamic* that only fairy magic or wondrous science offer viable qualifiers capable of describing it. The children’s energy resources are marvelous because they are organically self-generating, a notion recapitulated in their floral names and in Hawthorne’s brisk cadence and resonant description. The text hums with the children’s life force. Indeed, when the nutting expedition finally begins, the children “set forth, with hop, skip, and jump, and all sorts of frisks and gambols; while Cousin Eustace prove[s] his fitness to preside over the party by outdoing all their antics, and performing several new capers, which none of them [can] ever hope to imitate” (36). Winter finds them “tumbling heels over head” into snowdrifts, “flinging snow at one another,” and sledding down the slopes “a hundred times” (62, 86). “Brisk enjoyments” are their delight; and when the weather confounds outdoor activity, then *imagining* future romps takes precedence. Snowstorms suggest “the sleigh-ride; the slides down-hill into the valley; the snow-images that [are] to be shaped out; the snow-fortresses that [are] to be built, and the snow-balling to be carried on!” (62). Hawthorne continually captures in mood and syntax the children’s excited cognitive terrain, wherein speculative ventures pile atop each other as thickly and furiously as snowdrifts accumulate outside the

playroom window. Whatever the season, the children are actively engaged, physically and mentally traversing their world and conjuring enjoyable ways to improve their time upon it. Their perpetual busy-ness, in fact, is their business, their labor, for it allows the children to build the fundamental cognitive elements necessary to gain a mature level of imaginative enterprise.

Eustace's lively wits exemplify an advanced stage in this pedagogical process, for they revel in the idealized, prized work ethic of the New England Yankee. His "mind [is] in a free and happy state, and [takes] delight in its own activity, and scarcely require[s] any external impulse to set it at work" (39). Eustace's labor, like the younger children's, is self-generating and results in the "'mad-cap pranks'" and romantic mythmaking that his charges so enjoy (169). Overall his business much resembles the positive Gothic and natural aspects imbuing Tanglewood—liberal growth productively inclined, freely expressed, and aesthetically satisfying. Indeed at different developmental levels Eustace and the children personify the mid-nineteenth-century adjective *wide awake*. Alert, dynamic, thoroughly engaged, they represent life in its most heightened human sense. Their buoyant experiences amid nature invigorate their native energies and propel the keen sense of living that Rousseau so ardently promotes in *Émile* as a moral necessity.

More importantly, perhaps, that deep life connection enables and vivifies their imaginative production. The six myths Eustace recounts throughout the narrative seize the children's imaginations, inciting in them a hunger "for more, and more, and always for more" (7), words Hawthorne constantly heard from his own children when he regaled them with stories. Yet beyond these demands for instant gratification lurks a deeper response. Here, as in *Sandford and Merton* and *Harry and Lucy Concluded*, literary

production functions transformatively. It provides a catalyst for successful creative industry, which in Day's and Edgeworth's Englands results in successful scientific experiments and cultural/technological advancement. In *A Wonder-Book*, however, imaginative invention wears a more *human* face, for it emphasizes mental—not metal—machinery. Harry may dream that Von Guericke, his favorite scientist, is “trying experiments *always*, in his silk night gown [*sic.*]” (Edgeworth, *Harry and Lucy Concluded* 1:197), but his dreams occur only at night with learned adults in the starring roles. Cowslip, on the other hand, enjoys the perpetual labor that worthy imaginative material can provoke at *any* time for *anybody*. The child announces to the group, “[Eustace’s] stories are good to hear at night, because we can dream about them, asleep;—and good in the morning, too, because then we can dream about them, awake” (Hawthorne, *Wonder-Book* 8). While dreaming may seem at first a peculiar pastime for this wide-awake bunch, it, like a plant, is an organic creation; it requires only a living host to crisscross temporal, spatial, and personal boundaries in a self-contained system. And unlike a natural commodity, such as West Indian mahogany, which eighteenth- and nineteenth-century European and North American shippers, merchants, and cabinetmakers exploited to near-extinction to fulfill raging consumer demand, dreaming is *not* a finite and diminishing natural resource (Anderson). While stories and dreams may seem inconsequential or trite in comparison with the virile utility of, say, steamboats, with Cowslip’s assertion Hawthorne subtly insinuates the cultural work available through daily and nightly imaginative enterprise. Organically performing continual mental acrobatics—a metaphysical version of Lucy clambering all over Harry’s laboratory tree—imagining and dreaming are the ultimate labor forces rendered morally

pure and desirable through the metaphorically botanical children who champion it. Imaginative enterprise thus is, in effect, Tanglewood condensed and rendered doubly portable—an attractive cultural ethos made cultural text through Hawthorne’s literal storybook. The endlessly working imagination in *A Wonder-Book* thus becomes a provocative pedagogical guide for readers to internalize and to *value*. Then, as this idea roots and grows, it too can work to shape readers’ conceptions of imaginative enterprise as a perpetually delightful, fruitful, and indelibly American mental signature of moral cultural progress amid the nation’s inviolate domesticity.

The ambiguous relationships among the twelve children also advance the impression that the domestic garden they live in and signify represents a generic American paradise. These “small people” are “of all sorts, sizes, and ages, whether girls or boys,” and they are “brothers, sisters, and cousins, together with a few of their young acquaintances, who ha[ve] been invited by Mr. and Mrs. Pringle to spend some of this delightful weather with their own children, at Tanglewood” (6).²¹ Exactly who is brother, sister, cousin, or acquaintance to whom is never elucidated. Indeed, a careful survey of the frames surrounding each Greek myth conveys only a handful of details. Hawthorne designates only six of the children as boys or girls. Of these six, two are boys—Sweet Fern and Dandelion (59, 60)—and four are girls—Primrose, Cowslip, Huckleberry, and Periwinkle (8, 35, 7, 59). Furthermore, only three of the children in this group (or, indeed, in the larger set of twelve) are assigned ages. At the beginning of the text, in autumn, Primrose is twelve; by winter-time she has turned thirteen (8, 87). Cowslip and Periwinkle, however, remain six and ten, respectively, throughout the book (35, 59). Sweet Fern and Dandelion, along with Squash Blossom, are of indeterminate age, but

Hawthorne eventually groups the three with six-year-old Cowslip as the youngest among the group of twelve (116, 117), leaving the rest of the botanical juveniles to fall, by default, into the subset of older children. Last, but not least, at the same time that we learn Primrose is now thirteen years old, we also discover that her parents are Mr. and Mrs. Pringle (87). Primrose, like Eustace Bright, now has a first and last name, however frighteningly alliterative. And, quite possibly but by no means certainly, ten-year-old Periwinkle may be Primrose's sister and Sweet Fern may be Primrose's brother, if only because they alone of the twelve children are at the Pringle mansion to hear Eustace's fourth story (87, 111). Finally, despite the narrative's contention that some of these kids are only friends, all the children refer to Bright as "Cousin Eustace" (9, 86), a familiar address that may or may not denote a social instead of a blood or marriage bond, a relationship made that much more impossible to pinpoint because Eustace, although he has a "home" to go to, is always found in the Pringle mansion, which may or may not be his actual residence (87; see 61, 63). This bewildering array of disparate ages and sexes and relationships, combined with the children's metaphorical names, is practically impossible to remember as the text progresses; even using a cheat sheet doesn't seem to help that much. To wit:

<u>Girls</u>	<u>Boys</u>	<u>Androgynous</u>
Primrose (12-13)	Sweet Fern (y)	Squash Blossom (y)
Periwinkle (10)	Dandelion (y)	Butter-cup (o)
Cowslip (6)		Blue Eye (o)
Huckleberry (o)		Clover (o)
		Milkweed (o)
		Plantain (o)

o = older; y = younger

Overall, who is and isn't a Pringle or a boy or a girl or younger or older really doesn't matter, a notion distinctly at odds with a national twenty-first-century public school

system that continues to adhere strongly to pedagogies that emphasize teaching curricular material to age- (and in some cases even sex-) appropriate groups. This indistinctiveness among the children—with the exception of Primrose, who, through her challenging relationship with eighteen-year-old Eustace Bright across the framing devices, remains a singular individual—enhances their androgynous and generic qualities and renders all twelve domestically related much as flowers are in a flower garden, if only by virtue of being flowers.²²

This idea recurs throughout Mary Peabody Mann's botany book entitled *The Flower People*, which may have influenced brother-in-law Hawthorne when writing *A Wonder-Book*. In Mann's text, little Mary holds conversations with a large variety of different flowers, who chat away about Linnaean botanical facts, their own geographic origins, nature's bountiful goodness, and, in relevant cases, the Greek myths that are said to be the sources of the flowers' names. Repeatedly the flowers refer to themselves as humans would in a family, naming, say, fellow snowdrops their "brothers and sisters" (10), fellow anemones their "children" (46), the sun their "father" (11, 33, 43, 153, 171), similar flowers their "cousins" (27, 34, 45, 79), or the flowers in the Garden of Eden their "first parents" (20). These talkative plants also bond with dissimilar flowers; thus the hyacinth refers to her "friend Tulip" (57), the crocus calls the snowdrop her "dear friend" (18), and the "Sweet-scented pea" claims friendship with the nasturtium (159). Very much like real humans, too, Mann's flowers both admit to negative feelings in their lives and reveal that each kind communicates these feelings toward others differently. "We and all flowers have enemies," confesses the snowdrop, "though we never mean to do any harm" (13). The butter-cup, on the other hand, revels in the way its bitter taste

causes cows to run and kick, and, after reciting the shortcomings of her “distant relations”—the anemones, clematis, peonies, and delphiniums—she sniffs caustically, ““You would not like flowers so much, if you knew them better”” (82). By incorporating this anthropomorphism in her botany text, Mann personalizes flower relationships and puns upon the Linnaean taxonomic family to which each flower belongs, thereby providing an easily accessible and mnemonic way for children to remember both botany and floriculture.

That Hawthorne metaphorically turns children into talking flowers and then plants them together in a domestic, convivial garden setting in *A Wonder-Book* suggests that Mann’s book did influence him, even though his record remains silent on the subject.²³ The narrative voice in *Flower People*, in fact, makes a case for anthropomorphism that a flower aficionado such as Hawthorne might very well have found as compelling as it is concise. “Flowers,” announces the narrator, “like all other *sentient* beings, love to talk of themselves to those who love them” (53; italics in text). While Mann’s is not the first book or story to humanize nonhuman living things—animal tales, for example, “one of the oldest forms, perhaps the oldest, of the folktale, and found everywhere on the globe at all levels of culture,” require the reader or listener “to suspend disbelief and see the animal speaking, thinking, and acting like a human being” (Leach and Fried 61, 62)²⁴—its emphasis on love among and for sentient beings agrees with prevailing genteel notions among the British and American elite that children should be kind to animals and respect the divinity within nature, subjects exhaustively covered in English-language children’s books since the latter half of the eighteenth century (Darton 156-64). *Flower People* also contains an interesting snippet in which Mann likens “a troop of Columbines,” one of

Mann's and Sophia Hawthorne's favorite flowers, to a group of children picking flowers: as the columbines "wave[...] gaily in the wind, they look[...] as if they [are] running about as fast as the happy children who [are] snatching them from their nooks and pinnacles" (90). Suggestive moments such as these seem to be reproduced in *A Wonder-Book* via Primrose, Periwinkle, and the rest of the on-the-go gang as they scamper hither and yon in festive merriment with nary a temper tantrum in sight. Yet unlike Mann's flowers (and his own children), Hawthorne's metaphorically botanical children are ideally void of human negativity.²⁵ And the wildflowers picked for the kids' names in *A Wonder-Book* do not appear to have been chosen based upon similar botanical "family affiliations" (Klimas 1). Dandelion is part of the aster family; Butter-cup, the buttercup family; Primrose, either the evening-primrose or the primrose family; Blue Eye—which may very well be Hawthorne's name for blue-eyed grass, a wildflower common to Massachusetts and also found in Mann's *Flower People* (Klimas 43; Mann 130-32)—the iris family; Clover, the pea family; Milkweed, the milkweed family; Sweet Fern, the bayberry family; Squash Blossom, the cucumber family; Plantain, the plantain family; Periwinkle, the dogbane family; Huckleberry, the heath family; and Cowslip, the primrose family (Klimas 39, 41, 43, 45, 50; "Sweet Fern"; United States Department of Agriculture). More intriguing, perhaps, is the seasonal order in which these flowers appear. In Massachusetts, dandelions first bloom from March to early May; buttercups and clover, from May to mid-June; blue-eyed grass and milkweed, from mid-June to mid-July; and primroses, from mid-July to August (Klimas 57-58). Comparing this information to the children's two basic age categories on page 42, it seems as though Hawthorne has separated younger and older children by the approximate chronological

initial blooming seasons of the flowers for which they are named. The older group tends to fall in the later months of the growing season, while the younger group tends to crop up in the earlier months.²⁶ That these botanicals share the same agricultural year may be enough to make them kin as well, even if each flower, blooming season, and requisite age group do not match exactly. Furthermore, according to the color wheel, the colors in which these flowers bloom—primarily yellows, oranges, blues, and whites—are semi-complementary to each other, which increases the dramatic impact that the flowers make when planted and seen together (Scourse 178). Fresh, vivid, colorful, dynamic, these metaphorical flowers thus attract the flower lover's literal and mind's eye just as the fictive children bearing their names compel the reader's attention. The children's paradisiacal relationships, rooted in their idyllic commonwealth (all twelve flowers are common to Massachusetts), render all within their hortus conclusus familiar and domestic, a neat microcosm of an idealized American Eden void of class and racial strife despite the bitter and caustic elements inherent in, but not acted upon by, some of the "flower" children.²⁷

In between these dense layers of botanical and horticultural connections that Hawthorne plants within the framing devices are six Greek myths, which themselves offer cultural and personal connotations of purity, morality, and pedagogical probity by virtue of their place in nineteenth-century American classicism. As Caroline Winterer points out, "next to Christianity, the central intellectual project in America before the late nineteenth century was classicism," an "important part of what Thomas Bender has called the 'civic culture' of the eighteenth century, in which America participated in a decentralized, cosmopolitan republic of letters" that championed "an ideal of a generally

learned citizenry” steeped in the European tradition of studying Greek and Latin, which were fondly believed to inculcate “eloquent, moral, and dutiful citizens” (1, 15-16, 16, 2, 36). While the model of republican Rome appealed most to late-eighteenth and early-nineteenth cultural arbiters—“the Senate as guarantor of liberty and stability; the ideal of the cultivated, virtuous Ciceronian orator; and agriculture as safeguard to civic virtue”—by the antebellum era, ancient Greece was rising to the fore as the cultural and pedagogical ““moral sublime,”” its literature, language, and sculpture revived by American classical scholars influenced by German academics’ new interest in modern historicism, as well as “the art, literature, and other achievements of the ancient Greeks” (Winterer 19, 61, 50, 51). The classically educated Hawthorne, who attended college between 1821 and 1825, thus was pedagogically and culturally saturated with German New Humanism as an adult. At Bowdoin, in addition to reading Virgil, Cicero, Sallust, and Horace, he studied the Greek Testament and the *Graeca Majora*, “the most widely used textbook for teaching Greek in American colleges for the first half of the nineteenth century” (Cleaveland 88; Winterer 32). This two-volume collection, “a great sea of Greek text,” including “excerpts from Homer’s *Odyssey*, Hesiod, the *Oedipus Tyrannus* of Sophocles, Euripides’ *Medea*, Theocritus, Bion, Moschus, and the odes of Sappho,” relied heavily on Greek literary, historical, and mythological gems as fodder for students like Hawthorne to hone their linguistic and grammatical skills and absorb civic morality (Winterer 32, 33).

Greek literature and art later took on increasingly emotional value in Hawthorne’s life through his relationship with the Peabody sisters. Recall, for instance, that he began bonding with Elizabeth Palmer Peabody in 1837 over a copy of Flaxman’s “Greek

Poets,” which Sophia had borrowed from Washington Allston (Tharp 115, 116). Indeed, the antebellum passion for Greek culture can be found in microcosm in the Peabody home, whose occupants were undoubtedly influenced by their progressive pedagogical ideas and their proximity to Boston, “commonly known [then] as the Athens of America” because “it was the site of the first Athenaeum in America (1807)—modeled on Liverpool’s own”—and the home of Harvard College, which wholeheartedly embraced German New Humanism and thereby “nourished several generations of America’s most influential classical scholars in the nineteenth century” (Winterer 51, 52). Elizabeth, for example, was determined “to play an important part in the Athens of America” (Tharp 39). Thus she continued improving her already considerable language skills by tackling Greek, wrote a series of books in which she highlighted Greek literature as an essential “Key to History,” and opened her West Street Bookshop in Boston for reading circles, including “a group of about twenty-five women” who, led by Margaret Fuller, “met weekly at noon for two hours” between late 1839 and early 1840 to discuss “the finest points of Greek culture” (Tharp 25, 27, 87; Myerson 190).²⁸ This thirteen-week series, known as Fuller’s first Conversations on Greek Mythology, was so successful that in 1841 Fuller held another series, this time co-ed, at the Reverend George Ripley’s house in Bedford Place, Boston; there, Sophia Peabody joined her sister Elizabeth, as well as twenty-odd interested participants ranging from Bronson Alcott to Ralph Waldo Emerson to Caroline Sturgis (later Caroline Sturgis Tappan, from whom Hawthorne would rent the little red house in Lenox where he wrote *A Wonder-Book*), to “discuss Grecian Mythology as interpreted to Margaret’s mind by Art” over the course of ten weeks ([Dall] 17-19, 21, 12).²⁹ But it was Greek sculpture that kindled Sophia Peabody’s artistic

passion. Through family friend Susan Burley, whom Peabody biographer Louise Tharp describes as “a great patron of the arts,” Sophia borrowed books of engravings that introduced her to Greek sculpture and fired her ambition to study drawing (20-21). Beginning in 1824, she began learning how to draw from her “Aunt Curtis” (Tharp 38, 46); through sister Elizabeth’s connections, she then later received instruction from “the leading painters of the day,” including “popular illustrator” Francis Graeter, Thomas Doughty, Chester Harding, and Washington Allston, who specialized in landscapes and mythological subjects (Valenti, “Artistic Influence” 1; Tharp 46-58; Valenti, *American Notebooks* 177). As part of her art education Sophia regularly attended the annual art exhibits at the Boston Athenaeum; by the middle of 1839, Hawthorne was so taken with Sophia and her artistic talent that he, too, visited Allston’s Athenaeum exhibit that year and ““was eager to know”” what she was “going to paint”” next (Tharp 55; Valenti “Artistic Influence” qtd. on 11).

With marriage, Hawthorne and Sophia’s connection to Greek art and literature only deepened. It seemed fitting that friend Caroline Sturgis gifted the newlyweds with a bust of Apollo, which Sophia forever associated with her “noble & kingly husband” (Mellow 206; Valenti, *American Notebooks* 130).³⁰ Other Greek home accents included a “lovely half statue of Ceres,” the goddess of agriculture, which combined with Sophia’s passion for Greek sculpture the Victorian practice of decorating the indoors with flowers, plants or ferns (albeit symbolically here), as well as dotting gardens with Greek statuary (Davidoff and Hall 374, 371; Farr 255-56, 299-300; Scourse 84-93, 39). Placing Ceres first in the drawing room and then in Hawthorne’s study, Sophia seemed to participate symbolically in a thick conflation of Greek and botanical fashions meant to

render both living and working spaces pure, virtuous, and Edenic, an atmospheric touch that, quite literally, she impressed upon the newlyweds' most intimate space as well.

"Upon our bedstead is an outline drawing of Guido's Aurora," she tells her journal, a picture that she drew herself to embellish a set of used bedroom furniture purchased for the Hawthornes' first home.³¹ "The chariot & horses with Apollo or Phoebus [are] the Rising Sun, the floating figure in front the Dawn, waking the flowers, & the little genious with a torch, the morning Star." Upon the bed's footboard Sophia etched an "allegorical drawing of night," presumably inspired from Greek mythology as well (Valenti, "*American Notebooks*" 153; Tharp 147). In choosing the outline form, Sophia acknowledges her artistic debt to John Flaxman, late-eighteenth- and early-nineteenth-century sculptor and illustrator extraordinaire who first modeled classical figures for Wedgwood bas-reliefs and portraits and, following artistic study in Italy, became renowned for his graceful compositions of Aeschylus's *Tragedies* and Homer's *Iliad* and *Odyssey* (Copeland 18; Irwin 87). Flaxman's critics "stressed the linearity of [his] illustrations, describing how appropriate they would have been in fifth century Greece," the very era that American classicism wholeheartedly embraced (Irwin 67; Winterer 4). Indeed, according to David G. Irwin, Flaxman "absorbed" from "red and black figure vases of the fifth and fourth centuries BC, of both Greek and Southern Italian manufacture," a style that "eliminated modelling and spatial depth, pared down settings and furnishings to an absolute minimum, and portrayed figures and detailing in pure line" (Irwin 81). So enthused was critic A. W. von Schlegel that in 1799 he "went so far as to say that outline was better than a fully detailed drawing for literary illustrations."

Whatever his critical reception, Flaxman himself strongly believed that his compositions

had “moral purity” (Irwin 67, 91), a sentiment that Sophia echoed by inscribing in his style both flowers and mythological figures on the deeply personal site of marital intimacy and parental conception.

That Una and Julian, “of their own accord,” then began to “act[...] Flaxman’s outlines” when they were very young lends additional credence to how strong the Greek literary and artistic influence was in the Hawthorne home (Valenti, “*American Notebooks*” 158). Although documents don’t record the exact date that this dramatic activity began, by 2 September 1849, Sophia writes to her mother in a matter-of-fact tone that “the children have been acting Flaxman’s outlines” and, in her estimation, her daughter well understands the scenes that they have chosen.³² Two months later, Sophia suggests to her tired children that she join them in their Flaxman fun, and she jots down the results in her journal: “We began with Hesiod. I sat Una down as Pandora— I put a jaunty cap on Julian’s head & as good a caduceus as I could make in his hand, & upon me fell the part of Minerva. Julian’s face, full of fun & [meaning] made a very good Mercury. Una was a demure & pretty little Pandora— So we went on through Hesiod & Aeschylus—& had a fine play” (11 November 1849; 158). Here Greek mythology is the mid-nineteenth-century version of *Barney* for five-and-a-half-year-old Una and her three-year-old brother, wholesome entertainment for the whole family.³³ By early September of 1852, Sophia was including in her children’s lessons a little Greek history, telling her two oldest (Rose had been born on 20 May 1851) “the story of Greece & Socrates & Plato, directly after dinner, to their immense delight—Julian took it in solemnly & fully—the hemlock & all” (Mellow 363; Valenti, “*American Notebooks*” 169). Hawthorne, on the other hand, stuck to the lighter side of Grecian fare, banding together

with his son and “wag[ing] war with thistles,” which they dubbed “hydras, chimaeras, dragons, and Gorgons” (Hawthorne, *Twenty Days* 8, 16). Given the entire household’s penchant for Greek frolic and drama, it comes as no surprise that Hawthorne repeatedly read his family portions of *A Wonder-Book* as he was writing it. The adult Julian declares that “before the book was in the printer’s hands, the children could repeat the greater part of it by heart, from hearing it read so often,”³⁴ a phenomenon that did not preclude Julian the child from eagerly listening to it read to him once it had been published (Valenti, “*American Notebooks*” 174).

A Wonder-Book thus stands as a pedagogical specimen doubly strengthened by the elite’s appreciation for the civic and personal virtue that botany as well as Greek culture could propagate. Moreover, Hawthorne’s choice of Greek myths in this volume adds yet another level of cultural and classical probity, and makes references to science that, while at best oblique to twenty-first-century readers, were probably more widely and well known among Hawthorne’s elite audience. Quicksilver, for instance, Hawthorne’s name for the Greek god Hermes (the Roman god Mercury), appears in three of the six myths: “The Gorgon’s Head,” “The Paradise of Children,” and “The Miraculous Pitcher.” The name itself, Quicksilver, was still being used in late-nineteenth-century America as a popular term for the mercury in thermometers, a scientific instrument that Hawthorne owned and swore at when the temperature was too cold for his liking (Cleaveland 82; Hawthorne, *Letters* 16:12-13).³⁵ As Hermes’ namesake, Quicksilver also represents an important figure in the ancient Greek world: “Athenaeus and others ascribe to Hermes the glory of discovering the arts and sciences,” a notion that Greek scholar Antoine Faivre states “is both the precipitation of Mercury into human history and the sublimation

of history to Olympus,” which over time bundled together into one figure “the presence of several Hermeses.” This Hermes series, “contrived in the Hellenistic era during the third or second century BCE,” starts with “Thoth, who carved his [scientific] knowledge on stelae and concealed it.” “Comparable to Thoth” as a “‘civilizing hero,’ an initiator into the mysteries of the divine science and wisdom that animate the world” is Islam’s Idris, “the *nabi* mentioned twice” in the Quran. He “carved the principles of this sacred science in hieroglyphs. (Even the Arabic term for ‘pyramid,’ *haram*, is connected with the name of Hermes, *Hirmis*)” (Faivre 14, 17, 19-20). This genealogy clarifies Rousseau’s reference to Hermes in *Émile*, in which he asserts, “Hermes is said to have engraved the elements of the sciences on columns, in order to secure his discoveries from being lost in a deluge. Had he imprinted them in the minds of men, they would have been preserved by tradition. The brain, duly prepared, is the monument, in which all human knowledge is best engraved” (Nugent 1:266).³⁶ That this excerpt is important becomes clear when, upon opening the second volume of the 1762 French-language edition of *Émile*, a frontispiece of Hermes writing upon a Doric column appears. Wearing his hat and winged heels, holding his caduceus with his left arm, and using his right to guide his stylus across the column, Hermes is further identified iconographically by a geometry book, ancillary sphere, scroll, star, and various measuring devices in the left foreground, which help depict his status as the god or patron of the craftsman/inventor, travelers, commerce, treaty-making, “soothsaying, literature, and the arts,” as well as the inventor of the lyre and the shepherd’s pipe, “astronomy, the musical scale, the arts of boxing and gymnastics, weights and measures,” and “the cultivation of the olive-tree” (N. Brown 20-21, 49; Graves 67, 64, 65). The caption, which reads

“Hermès, *Liv. III*,” directs the reader to the third book (*Liv.* for *livre*), where the Hermes passage may be found.³⁷ The confluence here of Hermes, science, *Émile*, and pedagogy within Quicksilver’s cultural milieu is intriguing, especially since Hawthorne read quite a lot of Rousseau, including *Émile*. Moreover, Hermes is also connected to domesticity, specifically, “the center of the house.” Greek scholar Karl Kerényi notes that Hermes “guides souls out of his realm—the world of paths and roads—back into the warm life of the household, which in Greek signifies the ‘family’” (139, 140), an important connotative layer to consider within a book for children. By exploring Quicksilver’s role within *A Wonder-Book*, it may be possible to make sense of how the dense layers of morality, pedagogy, and science champion imaginative enterprise in the text.

Despite the rich possibility suggested by the information above, Quicksilver barely registers on the radar of *Wonder-Book* scholarship, which encompasses a variety of disparate topics. May Arbuthnot disapproves of the changes that Hawthorne makes in his juvenile myths from the more complex and dignified versions with which adults are familiar, claiming that Eustace Bright’s gods “los[e] much of their grandeur” (45), a stance that Alice Jordan rejects when she notes that Hawthorne “clothe[s]” the “bare elements of the immortal stories” with “warm, intimate details that appeal to a child’s mind” (93). Sanchez-Eppler asserts that the text’s “sunniness” derives from a “dual simplification that imagines both parenting and writing as acts of simple fiat” (par. 14). While Elizabeth Peck points out that Hawthorne’s frame is important because it is nonsexist (116), Gillian Avery claims that “no connecting thread” binds the “random” selection of “‘nursery-tales’” and that “all the supernatural events are markedly lacking in mystery” (128). The worthiness of children’s literature itself comes under attack as

scholars Alexander C. Kern, Roy Harvey Pearce, and Hawthorne biographer Edwin Haviland Miller try to excuse or justify Hawthorne's venture away from the respectable authorship of *The Scarlet Letter* into the crassly populist, commercial children's market; Carol Billman simply denigrates the children's myths themselves as compositions of "limited originality" (112).³⁸ With Hugh McPherson's studies of Charles Anthon's *Classical Dictionary* as Hawthorne's major source for *A Wonder-Book* and *Tanglewood Tales*, claim Richard D. Hathaway (161) and Nina Baym (35), a newly appreciative critical interest in these texts starts to appear, Baym herself engaging in a structural comparison between the two volumes and Hathaway discussing Hawthorne's strategies behind creating within both books "a new Eden in the wilderness" that plays into "one of the great American myths" (169). This newer scholarship also features considerable feminist interpretations, which typically concentrate on Hawthorne's obsession with female gender ideology and tends to contrast the girls in the juvenile texts with women in the novels and short stories (Whitney, Doudna, Ginsberg, Collins, and Brown).³⁹ Laura Laffrado, on the other hand, focuses on the sight motif in *A Wonder-Book* and *Tanglewood Tales*, especially in relation to narration, while John Lednicky compares the frameworks within these texts to explore Hawthorne's initial championing and then challenging of the literary ideal in a world ruled by the antebellum literary marketplace. Finally, Joel Pfister puts a Freudian twist on both *A Wonder-Book* and Walter Crane's illustrations for it, first published in 1893. Any mention of Quicksilver amid these various topics focuses almost exclusively on plot points as the scholars summarize particular myths for their readers.

The three minor exceptions to this trend appear in Avery, Mattfield, and Laffrado. Avery merely notes that “Hermes-Quicksilver takes on the character of a genial though authoritative uncle” (128). As Mattfield parallels ironic and humorous touches in “The Gorgon’s Head” with similar notes in various Hawthorne short stories, she acknowledges that “much of the humor” in the Gorgon story “comes from the characterization of Quicksilver, one of Hawthorne’s happiest reconciliations of the human and the Olympian. Whenever he appears in the *Wonder Book*, and especially in ‘The Gorgon’s Head,’ Quicksilver charms mortals by his lively wit and ingenuity, amoral goodhumor [*sic.*] and enthusiasm.” Continuing with her comparison between Hawthorne’s juvenile and adult narratives, she asserts that “like Holgrave the daguerrotypist, [Quicksilver] seems a very modern and ‘lawless’ young man, and he delights the boyish Perseus by his shrewdness and worldly sophistication” (351). Singling out but not identifying as such Quicksilver’s trickster characteristics—the “lively wit and ingenuity,” “amoral goodhumor,” lawlessness, shrewdness, and worldliness—Mattsen misses an opportunity to explore how or why this character represents a particularly intriguing pedagogical guide for Perseus, who, in Hawthorne’s version of the quest for the Gorgon’s head, is a “young man” whose naiveté and constant references to his mother render him considerably more immature than the moniker “young man” would suggest (*A Wonder-Book* 11). Keeping that information in mind, let’s now turn to Laffrado. In her book on Hawthorne’s children’s literature and in her article “Fear of Cultural Excision: Narration as Rhetorical Strategy in ‘The Gorgon’s Head,’” Laffrado mentions simply that Perseus “acquiesces to Quicksilver’s authority” and thus allows him “magically [to] provide[...] help” throughout the quest, just as “Hawthorne magically provides help for Eustace” by

situating him in a context that “preserve[s] the artist from the social neglect that composed [Hawthorne’s] own early experience” (*Hawthorne’s Literature* 75; see also “Fear” 9). Fair enough. Intriguing here for my purposes is the tacit recognition of Quicksilver as cicerone, for this character does more than whip out magical devices at will just to help Perseus slay Medusa; like Émile’s tutor and *Sandford and Merton*’s Mr. Barlow after him, Quicksilver is Perseus’s pedagogical guide, a mentor who can teach the lad to be mentally alert, imaginative, shrewd, and worldly, all Yankee characteristics that lead to Perseus’s further heroic successes and thus model for the metaphorically botanical auditors and real-life readers the advantages of nimble cognitive enterprise.

As a sign of science and family, Quicksilver embodies the notion of domestic science portrayed in *Harry and Lucy Concluded* and lends to “The Gorgon’s Head” more nuanced depths than readers would think if they agreed with Nina Baym’s assertion that this story of Perseus, like those of Hercules and Bellerophon in *A Wonder-Book*, are “adventure stories pure and simple” (38). Indeed, “The Gorgon’s Head” engages with domesticity so thoroughly that Baym’s separation of the six *Wonder-Book* myths into three adventure tales (mentioned above) and three “domestic stories”—those of Midas, Pandora, and Baucis and Philemon—appears too simple, reductive (38-39). This overt domesticity takes the fore through Quicksilver’s role as tutor to the “innocent” Perseus (Hawthorne, *A Wonder-Book* 13), for the Olympian shapes his charge’s character as would the tutor in *Émile*—away from mother and household—but helps to nurture within the young man a strong sense of domestic responsibility ideologically consonant with the genteel mid-nineteenth-century idea of man as an intellectually and fiscally able domestic provider and protector (Ryan; Greven; Welter). That Quicksilver first appears when

Perseus seeks solace in a private place, “so disconsolate” about his dangerous undertaking to procure Medusa’s head that he “[can] not bear to tell his mother what he ha[s] undertaken to do,” serves to enhance the story’s domestic current, for maternal affection, sensibility, and the isolated spot conjoin to provide the newly arrived Rousseauian cicerone with a charge who needs to put mama in the back of his mind so that he can learn how to act in the world and thereby protect her better. Quicksilver’s appearance and attitude help to smooth this pedagogical transition, for the Olympian embodies the consummate confident adult. “Brisk, intelligent, and remarkably shrewd-looking,” this “young man” is “exceedingly light and active in his figure, like a person much accustomed to gymnastic exercises, and well able to leap or run.” “Above all,” Quicksilver has “such a cheerful, knowing, and helpful aspect, (though it [is] certainly a little mischievous, into the bargain,) that Perseus [can] not help feeling his spirits grow livelier, as he gaze[s] at him” (14), a mood that lightens even more as the lad continues to listen to and observe this new person. Thus Perseus tells him about the quest for Medusa. Quicksilver’s “encouraging tone” and assurance that he is “the very person to help” the discouraged youth fosters in Perseus a mute acceptance that signals the Olympian’s first piece of advice, which is for Perseus to shine his shield (15). “He immediately set[s] to work, and scrub[s] the shield with so much diligence and good will, that it very quickly [shines] like the moon at harvest-time” (16). Already Perseus reveals a punctual and vigorous work ethic that combines a manly task—cleaning weaponry—and so-called woman’s work—polishing the silver—thereby conflating the labor required for protecting domestic concerns with the characteristics necessary for carrying out such a venture. His briskness, readiness, and good will, which his shining shield reflects

literally and symbolically, illustrate that he has begun to learn from Quicksilver's example the qualities that he will need to become a successful man.

"[Feeling] so much confidence in his companion's sagacity" (17), Perseus relies on Quicksilver's obvious authority (as Laffrado says) to outfit himself with several more implements, including a short sword, winged shoes, a magic wallet, and a helmet of invisibility; yet the youth brings to the quest a domestic quality that softens his sly maneuvering into genteel accomplishments. To wrest from the crotchety Gray Women the directions to the Nymphs, "who have the flying slippers, the magic wallet, and the helmet of darkness," Perseus relies on exquisite good manners. Even though he snatches from the Gray Women's grasp the single eye that they share, he converses with them thereafter with "the greatest civility," a quality that "his mother had taught him always to use" (23). Smoothing his way with addresses such as "'my dear, good, admirable old ladies'" and "'my respectable dames,'" which he intersperses with assurances that he is "by no means a bad young man," Perseus polishes over with sincere cordiality the rough morality that readers may associate with the tricky way that he takes advantage of the Women's blindness and "[makes] himself master of the prize [eye]" (22, 23, 21). In case the youth's gentle words appear too oleaginous, Hawthorne includes additional notes of sincerity: Perseus realizes "his rudeness in snatching [the eye] away" and is "grieved" that he is "put[ting] them [the Women] to so much trouble" (23). That he "immediately, and with the utmost respect, clap[s] the eye into the vacant socket in one of their foreheads, thank[s] them for their kindness, and [bids] them farewell" (24) after politely extracting correct directions to the Nymphs further reinforces the impression that his business, while not entirely ethically pristine, nonetheless receives a generous moral

boost from his gentlemanly behavior. Hawthorne also purifies Perseus iconographically shortly thereafter, which casts the youth in a heroic mold and heightens his moral tenor. Right before he puts on the helmet of invisibility, Perseus stands upright, “a beautiful young man, with golden ringlets and rosy cheeks, the crooked sword by his side, and the brightly polished shield upon his arm; a figure that seem[s] all made up of courage, sprightliness, and glorious light.” This Anglo-Saxon vision, himself now resembling the shining shield and the harvest moon whose light the shield reflects, appears to be light incarnate, an impression underscored by Hawthorne’s racial reference to the youth’s “white brow” (26), itself a literary icon of genteel beauty and purity in European literary fairy tales, Poe’s short stories, and Sir Walter Scott’s romanticized tales of chivalry (think *Ivanhoe*).⁴⁰ That Perseus *then* launches himself into the air to find Medusa signifies that flight itself, limited in *Harry and Lucy Concluded* to scientific principles made manifest in hot-air balloons and kites, may be possible in other human-inspired vessels through the visionary activity Quicksilver is teaching his charge. Thus it is not surprising that on this flight, “the bravest sights [are] the meteors, that gleam[...] suddenly out, as if a bonfire ha[s] been kindled in the sky, and ma[ke] the moonshine pale for as much as a hundred miles around them” (27). Sharing space with these celestial bodies exalts Perseus’ already heightened position, both spatially and morally, but refrains from immodestly granting him equal status among these luminaries. Moreover, in this moment Hawthorne recognizes and nods to Yankee astronomy, one of the earliest sciences explored by distinguished New England scientists such as the third John Winthrop, professor of astronomy at Harvard from 1738-1779 and Fellow of the Royal Society who wrote papers on meteors, eclipses, planets, and sunspots; Salem’s Nathaniel Bowditch, who in

1815 published his conclusions about a “huge meteor” that in 1807 had “swept over New England like a flaming ball and crashed to earth with a number of violent explosions in the Connecticut town of Weston,” marking as well “the first time that the descent of such a heavenly body had actually been observed in North America”; and Nantucket astronomers Walter Folger, William Mitchell, and Maria Mitchell, “one of the outstanding woman scientists of nineteenth-century America” who in 1847 “discovered a comet, which brought her a medal from the King of Denmark and a ‘fellowship’ from the American Academy of Arts and Sciences in Boston” and in 1865 became Vassar College’s first astronomy professor (Struik 49, 50, 51, 108-14, 113, 120-123). That Perseus also thinks of “his dear mother” when he spots from the air “the island of Seriphus” renders this moment even more illuminating, for it conjoins domesticity, science, and visionary splendor as helpmeets in the youth’s heroic quest, which, imprinted in Hawthorne’s text, represents imaginative enterprise.

Quicksilver delivers his last lesson in tandem with his sister, who in Hawthorne’s text remains unnamed and invisible but nonetheless is vital to his quest, for it is she who spies the Gorgons on a small island, and advises Perseus to “‘be cautious!’” when lining up Medusa’s reflection “in the bright mirror of [his] shield” (Hawthorne, *A Wonder-Book* 29). Athena’s namelessness and invisibility work in interesting ways here, for her voice, which at first sounds neutral and unfamiliar to Perseus, takes on a gendered quality immediately before she announces that the Gorgons are in sight. Hawthorne writes, “It seemed to be a woman’s voice, and was melodious, though not exactly what might be called sweet, but grave and mild” (29-30). Lacking the definite sweetness that typifies maternal, affianced, and spousal affection in the mid-nineteenth century, the voice is

female but not sentimental, an evocative representation of a child's conscience, or inner voice; implanted through maternal diligence within the child, it retains the moral tincture that the mother's gender and parenting suggest and propagate (Ryan; Demers, *Heaven upon Earth*; Welter). Moreover, it is disembodied, unconnected to a material figure made manifest on the page, as well as nameless. That the voice belongs to Quicksilver's sister is knowledge that advances the plot, but the brother's few descriptive phrases cannot imbue Athena's character with much emotional resonance to which readers can relate. Rendered weightless and invisible, the voice floats in the air, like the meteors, a prize to be captured by those who are quick, fluid, and imaginative. On the other hand, the voice's very amorphousness, combined with the fact that it does issue from Athena, suggests that it could also represent her wisdom about the arts and sciences (Hawthorne, *A Wonder-Book* 18), for it is not confounded by the boundaries that a physical body or a personal name would imply. That Perseus learns this knowledge by listening to the voice and thus absorbing its wisdom—another prize that he masters—makes story sense. Drawing upon the sagacity that vigilance connotes as well as Quicksilver's lessons in audacity, he can wing “cautiously” toward Medusa *and* slice off her head “like a lightning-flash” before he flees from Medusa's pursuing sisters. When the youth then eludes capture by applying geometrical principles to his situation, “soaring upward a perpendicular mile or so” and, “at that height,” making “a straight course for the island of Seriphus, in order to carry Medusa's head to King Polydectes,” he proves that his double exposure to science through Quicksilver and Athena has led him to the path of self-direction (30, 31). As if to reinforce this idea, Hawthorne notes the rapidity with which Perseus follows a final bit of advice from Quicksilver and Athena after the youth has

severed Medusa's head. With a hearty "Admirably done!" the Olympian urges Perseus to "make haste" to "clap the head into [the] magic wallet." That the youth does so "as quick as thought" before he flies away at the behest of "the calm voice" reveals how deeply he has internalized and made his own the requisites that Quicksilver earlier had specified he would need to complete his quest (30). Balancing electrical audacity with mindfulness and care, Perseus literally "show[s] [him]self bold and cautious" (16) and therefore capable of masterful self-direction.

With these lessons learned, Quicksilver disappears from the story, for he is no longer needed as a cicerone. Perseus now knows how to behave in a scurrilous world, which allows him to engage successfully in "several marvellous things" on the way home, including "killing a hideous sea-monster, just as it was on the point of devouring a beautiful maiden" and "chang[ing] an enormous giant into a mountain of stone, merely by showing him the head of the Gorgon" (31-32). A seasoned hero, Perseus is ably equipped physically, morally, and cognitively to match wits with the likes of the wily Polydectes. Lest readers believe the youth's adventures have corrupted him, Hawthorne points out that the first thing Perseus does upon arrival on Seriphus is seek out "his dear mother"; "not finding [her] at home," he then heads for the palace, a "brave" hero indeed who rightly prioritizes mother and home over the working world represented by King Polydectes. Perseus then persuades the king to proclaim a holiday and summon to court all subjects "to behold this wonderful curiosity" (33), another subtle Hawthornian reference to the natural history cabinets that British, European, and American elites collected and maintained during the eighteenth and early nineteenth centuries, and to American natural history museums, such as Charles Willson Peale's "collection of

paintings and natural curiosities” (Irmscher qtd. on 1, 56-100). In its immediate context, however, Medusa’s head takes on the exotic and compelling fascination of P. T. Barnum’s famed American Museum, which Christoph Irmscher describes as a “monstrous ‘cabinet of curiosities’” in which “extravagance appeared to be an end in itself, not an incentive for the sense of boundless wonder at the multiplicity of the world [that] previous collectors had tried to instill in their visitors” (114-15). “Shov[ing],” “push[ing],” and “elbow[ing]” each other like a mob of thoughtless spectators in Barnum’s venue, the island’s inhabitants crowd toward the king’s balcony to get the best view of an object that defies the boundary between animals and humans, believing themselves safe because they think, like many of Barnum’s visitors probably did, that seeing Medusa’s head “would help to reinforce, if not create, the reassuring ‘normalcy’ of the [person’s] view of ‘himself’” (Hawthorne, *A Wonder-Book* 33; Irmscher 107).⁴¹ Indeed, made of “steely scales,” “golden wings,” “brazen claws,” “white tusks,” snakes for hair, “and a “forked tongue,” Medusa both before and after her decapitation resembles “an awful, gigantic kind of insect—immense golden-winged beetles, or dragon-flies, or things of that sort—at once ugly and beautiful.” Yet, “with all this, there [is] something partly human about [her], too” (Hawthorne, *A Wonder-Book* 28, 29). The islanders even reveal their own eagerness to gaze upon what they know is a part-animal, part-human creature, fiercely “shout[...]” to Perseus, ““Show us the head of Medusa with the snaky locks!”” That Perseus cannot dissuade the crowd or the king from taking that fatal look speaks to the debased nature of both this monarch and his people. It also presents Perseus in a humane light. Although he doesn’t argue strenuously for court and followers to change their minds, he does experience “a feeling of sorrow and pity” and, a bit later,

exudes a sigh that may signify regret, acceptance, or both. The third time, however (as in rousing, European folk-tale fashion), Perseus sounds his own command, crying, “Behold it, then!” in “a voice like the blast of a trumpet.” With this judicious note ringing in their ears, “the wicked King Polydectes, his evil-counsellors, and all his fierce subjects,” at “the first glimpse of the terrible head of Medusa,” transmogrify, “fixed, forever, in the look and attitude of that moment.” Indeed, “whitened into marble” and thus embodying a grotesque parody of classical Greek statuary, they no longer can develop morally, cognitively, or physically and thus are trapped in pedagogical stasis, a fate confounding the possibilities that formerly organic human minds once could have plumbed. Perseus, meanwhile, hastens off “to tell his dear mother that she need no longer be afraid of the wicked King Polydectes” (34), reminding readers once again that this experienced hero, like Quicksilver as Hermes, can combine his knowledge of science with morality, quick wits, and derring-do and thus prove his limber ability and desire to be a masculine protector and provider.

Quicksilver reappears briefly in “The Paradise of Children,” Hawthorne’s version of the Pandora myth, primarily to fill in expository detail; but the resonant language that Hawthorne wields here suggests that the healthy imaginative enterprise Quicksilver represents cannot thrive in a mind given over to the *wrong* busy-ness. In this story, Pandora and Epimetheus are children living “long, long ago, when this old world was in its tender infancy” and “everybody was a child” bursting with life in a prelapsarian garden (65, 66). “A great box” sitting in the cottage where Epimetheus lives plays the mythic tempter with which Pandora immediately grows obsessed, eschewing play and good humor to think exclusively about what the box might contain (65): “I am tired of

merry times, and don't care if I never have any more,'" says "pettish little Pandora.

'And, besides, I never do have any! This ugly box! I am so taken up with thinking about it, all the time! I insist upon your telling me what is inside of it'" (67). Pandora

definitely lacks imaginative flexibility here, shaping the expanse of her cognitive domain to the finite contours of the wooden container. Indeed, her idea of imaginative enterprise

is confined to "looking sideways at Epimetheus" and suggesting that he open the lid so

that they both can examine its contents (67). Pandora repeats here the same look that

Perseus gives Quicksilver as the two set out to find the Three Gray Women. He "look[s]

sideways at [the Olympian], out of the corner of his eye," in order "to see wings on the

side of [Quicksilver's] head." He also reveals his longing for Quicksilver's winged shoes

by "glancing slily at his companion's feet" and claiming that he "'could walk pretty

well'" if his shoes were the same as those Quicksilver wears (17). Perseus, however,

must brave the Three Gray Women and find his way to the Nymphs to get his winged

shoes; slyness without individual effort nets him nothing from Quicksilver. Similarly,

Pandora's sidelong glance fails to compel Epimetheus to open the box. Her action,

however, does prompt a discussion about Quicksilver, whose winged accoutrements,

caduceus, and "very smiling and intelligent" and "laughing" countenance identify him as

the messenger who left the box and Pandora at the door at different times. With this

expository information at hand, all mention of the Olympian ceases after Epimetheus

contends that neither child has "'any right to lift the lid of the box'" until receiving

Quicksilver's permission. This moral decision nettles Pandora, and she evinces her

disgust by muttering that Epimetheus is a "'dull boy'" whom she wishes "'had a little

more enterprise!'" (68). For an "active-minded" girl, Pandora exhibits a remarkably

vapid grasp of “enterprise,” an irony that turns self-reflexive as she turns her attentions to untwining the intricate gold knot fastening the box’s lid (71). “Happening to glance at the flower-wreathed face, on the lid of the enchanted box, she seem[s] to perceive it slyly grinning at her.” Literally faced with a ““very mischievous”” face, the girl symbolically confronts her own wrongdoing, which prompts her to wonder ““whether [the face] smiles because [she is] doing wrong”” and whether she should ““run away”” to escape temptation (73). That Pandora indeed gazes upon her own face in the wood is also possible, for the surface is “so highly polished that little Pandora could see her face in it” (69); thus she could be recognizing her own fruitless attempt at covert operations within the carved flowers adorning the face’s wooden brow, the static blooms here representing a lively growth permanently arrested before blossoms can develop into fruit. In this interpretation, the wooden face and the stone statues at the end of “The Gorgon’s Head” signify a similar fate that is rendered more tragic in “The Paradise of Children” because Pandora’s mind and imagination, like the wood, is organic and therefore open to possibilities but for her obsession, an erroneous enterprise on which to set her active mind. That Hope enters the world after Pandora has opened the box and unleashed hordes of “earthly Troubles” (77) is not overly helpful as far as Pandora’s development is concerned, for though she claims to trust Hope’s promise, she nonetheless disappears from the story, thereby permanently contained within the print that binds her to her fate.

In “The Miraculous Pitcher,” which tells the story of the elderly Baucis and Philemon,⁴² Quicksilver’s business appears primarily plot centered, for it is his merry talk, high spirits, and good humor that keep the old couple comfortably at ease when the Olympian and the unnamed Zeus, traveling incognito, arrive at the family’s home and

share what husband and wife think will be a spare, humble meal; likewise, it is Quicksilver's hand that turns the grapes, bread, and honey into ambrosial versions of the same and an ordinary earthenware pitcher into a vessel continually brimming with delicious milk. These changes reveal his Olympian powers, but constant references to his loquacious wit are more provocative. Situated within the couple's domestic space, Quicksilver enacts Karl Kerényi's observation that Hermes guides souls from his realm of roads and travelers—the peripatetic souls, in this case, being Zeus and himself—to the warm life of the family, or household (139, 140). Once in domesticity's embrace, Quicksilver's "shrewd" remarks and laughing banter, typographically enunciated with clusters of exclamations marks, literally imprint the pages with signs of vigorous health and imaginative gusto (Hawthorne, *A Wonder-Book* 125). This fluid verbal play propagates vitality and fertility in Baucis and Philemon's home, symbolized by the "absolute feast" of superlative bread, milk, and fruit; "simple" Philemon himself, who now "continually burst[s] out a-laughing" at Quicksilver's clever fancies; and the equally "simple" Baucis, who "[can] not but think that there [is] something rather out of the common way, in all that ha[s] been going on" (125, 126, 130). Indeed, so stimulated is Philemon by the ever-filling pitcher that he "slily peep[s] into it," a move that we first see with Perseus (131) and note again with Quicksilver in "The Miraculous Pitcher" when, "look[ing] so slily in their faces," he informs the couple that his caduceus is bewitched. Through his lively charm and infectious wit, Quicksilver openly illustrates the imaginative possibilities ready for harvest in even the oldest people and simplest, happiest homes, thereby suggesting that the ability to develop cognitively need not apply only to the young.

Quicksilver, however, is more than a merry comrade, for with Zeus he transmogrifies a nearby village—full of “very selfish and hard-hearted people” with “unkind children and curs” and “no pity for the poor, nor sympathy with the homeless,” or solicitude for the “sick, or feeble, or lame, or old”—into a lake that “fill[s] the great basin of the valley, from brim to brim, and reflect[s] the surrounding hills in its bosom; with as tranquil an image as if it had been there ever since the creation of the world” (120, 134). Like the perpetually full pitcher, the lake is a vessel brimming with organic matter wonderfully conceived and purified by its proximity to the moral qualities that Baucis, Philemon, and nature’s beauty signify. The lake thus now “reflects the sky” and spreads a fluid moral restorative across the area in place of the arid sterility that so seared the villagers’ affections that they “retained no image of the better life, in their bosoms.” Now “all transformed into fishes,” they needed “but little change,” according to Quicksilver, “for they were already a scaly set of rascals, and the coldest-blooded beings in existence” (135). Perched far lower on the food chain, the fishy former villagers now face the probability that they will be caught and eaten by humans, just as they, in their human days, used to ensnare and torture travelers. Moreover, although they are still organic, as is the wood of Pandora’s box, the fish no longer can conceive of imaginative possibility, for their brains now operate solely by the instinct to eat, reproduce, and survive. Recidivists, they cannot reclaim human status or fathom the need for hope and thereby endure, albeit unknowingly, the most devastating fate among the three stories. Baucis and Philemon, on the other hand, become a linden tree and an oak, respectively, when they die, as a reward for their generous hospitality to two strangers. Their healthy organic nature, manifested in “two venerable trees” with “their

roots fastened deep into the soil, and a huge breadth of foliage,” calls to mind the moral purity of the metaphorically botanical children listening to Eustace spin this tale (136, 137). Their human love survives in botanical form as well, for “their boughs—it [is] strange and beautiful to see—are intertwined together, and embrace[...] one another, so that each tree seem[s] to live in the other tree’s bosom, much more than in its own.” Moreover, when the breezes “set their intermingled boughs a-stir,” a “deep, broad murmur” fills the air as if the “trees [are] speaking,” “talking together in the depths of their mutual heart” (137) and thereby continuing the living, happy verbal play that Quicksilver initiated. Intimately intertwined within the heart of domesticity, represented at story’s end by the ancient trees, Quicksilver’s influence proves everlastingly fluid, confounding the boundaries of life and death, human and vegetable, to enrich a needful world.

Quicksilver’s fluid influence, in fact, spills over into *A Wonder-Book*’s framing devices, for Eustace Bright displays several of that Olympian’s characteristics. According to Karl Kerényi, Hermes is the “prototype of a playfully and nimbly unfolding masculinity” that is characteristically youthful (135), a wonderfully apt description for Hawthorne’s evocation of Quicksilver and of the eighteen-year-old Eustace, who perches on the cusp of adulthood and its attendant responsibilities in much the way that Quicksilver the trickster straddles human society and its periphery as well as the worlds of humans and immortals. Both live in a threshold space of infinite possibility symbolically open to safety and danger and to powers both positive and negative. Joseph Kett would call Eustace’s threshold his adolescent stage. That Quicksilver is definitely masculine plays as well into Hawthorne’s general adherence to mid-nineteenth-century

American gender ideology, in which men take risks for self and family, questing for fortune and fame to secure and protect the household. Thus Eustace cannot be, say, Euphemia, for Quicksilver emerges from European-derived traditional gender roles. Besides, Hawthorne's infamous irritation with the fiscal and popular success of contemporary female writers, that "d-----d mob of scribbling women" who should be "forbidden to write, on pain of having their faces deeply scarified with an oyster-shell" (*Letters* 17:304; *Letters* 16:624), probably also precluded him from granting deeply imaginative writerly status to a female, however young or old, in one of his own texts.

In addition to his unfolding masculinity, Eustace bears a striking physical and behavioral resemblance to Quicksilver. He is slender, healthy, and "as light and active as if he ha[s] wings to his shoes" (7), able to "skip[...] three times back and forth over the top of a chair" (63). His wholehearted exuberance shines in eyes that "twinkle" and in the many "capers" that he "perform[s]" among the children as they frisk about the countryside (7, 36). Indeed, "Dandelion, Clover, Cowslip, and Buttercup, [are] almost persuaded that he ha[s] winged slippers, like those which the Nymphs gave Perseus; so often ha[s] the student shown himself at the tip-top of a nut-tree, when only a moment before, he had been standing on the ground" (38). Note as well that the phrase "shown himself" echoes the one voiced by Quicksilver to Perseus in "The Gorgon's Head" (16; see also 54 above), further evidence connecting Eustace both to the cicerone and to the successful graduate of his school. Moreover, Cousin Eustace's mind is as busy as his body. "In a free and active state," it [takes] delight in its own activity, and scarcely require[s] any external impulse to set it at work" (39). This cognitive labor is more vital to the youth's make-up than his athletic agility, for "the whole emphasis in the mythology

of Hermes is on mental skill or cunning, as opposed to physical prowess" (N. Brown 7). Happily, Eustace enjoys a "spontaneous play of the intellect" (Hawthorne, *A Wonder-Book* 39), which indicates his limber imaginative zest and sets him apart from Pandora, who cannot open her mind to any imaginative possibilities outside the box—literally. Acting in the tradition of Hermes, an inventor and a patron of the arts, only reinforces the youth's Hermetic and hermeneutic sympathies. Eustace attempts to pen a sonnet or two and "invent[s] several new kinds of play" in addition to exercising his "'gifts of narrative'" and "the vagrant audacity of his imagination" through his own versions of *A Wonder-Book's* six Greek myths (83, 89, 9). He also dubs himself "'a re-inventor and improver'" of these ancient stories, thereby joining Edgeworth's Harry and his second-edition roof in the lofty tradition of Ben Franklin, whose *Autobiography* firmly advocates improving upon so-called originals to advance self-production, self-promotion, and self-worth (see Chapter II). To Eustace, "'re-model[ling]'" the myths (112), as Harry remodels Dame Peyton's roof, is an exercise in literary self-architecture, another phrase for deft imaginative enterprise.

Additionally, as Eustace presides over the party of fictive children, he becomes a cicerone in the mold of Maria Edgeworth's intermediate companion, an older youth who helps educate a younger one as we see in *Harry and Lucy Concluded*; he thereby takes on Hermes' "guiding function," which, Faivre asserts, is "linked to his extreme mobility" (13)—doubtless required in both the physical and mental realms. In *A Wonder-Book*, however, Hawthorne flip-flops the dynamic established in Edgeworth's text, casting the imaginative Lucy figure in the older role and the scientifically oriented Harry in the younger role. Thus lively, nimble Eustace, who like Lucy engages in tree-top antics,

helps the pedantic, measure-driven Sweet Fern, “a good little boy, who [is] always making particular inquiries about the precise height of giants and the littleness of fairies” (59), to begin opening his mind to the imaginative possibilities beyond empirical data. For instance, when Sweet Fern asks how big Pandora’s box is, Eustace’s reply—that it is “perhaps three feet long,” “two feet wide, and two feet and a half high”—prompts the boy to utter his disbelief that “such a great box as that” could contain all the world’s troubles (82). Sweet Fern’s innocent notion that the box and worldly troubles are disproportionate fits well within a mathematic framework, but the child *is* beginning to understand when his mischievous friend is being humorously imaginative. That in the winter he can tell Eustace, “you are making fun of me” (82), signals a slight development in his cognitive development since the autumn, when he unquestioningly accepted the older youth’s contention that Marygold, King Midas’s daughter, “weighed at least two thousand pounds, and might have been coined into thirty or forty thousand gold dollars” (59). Like Tommy Merton, however, Sweet Fern regresses a bit, inquiring how much liquid the miraculous pitcher holds and how long Atlas’s little finger is in “The Three Golden Apples,” and squirming in “ecstasy at the precision of the[...] measurements” that Eustace facetiously invents (111). Hope certainly is not lost on the boy, however, for Hawthorne positions him in Hermeslike stance when he asks the older youth yet another question. “‘I wish,’ whispered Sweet Fern, with this mouth close to the student’s ear, ‘that you would tell me how big were some of the oak-trees, that grew between the giant’s toes!’” (112). Here Sweet Fern embodies a tiny version of Hermes as master of “whispering” and “secret speech” (N. Brown 15), a subtle hint that the

young boy's interest in science signals but an early stage in his Hermetic development, which his *sotto voce* question to Eustace, his model for Hermes, affirms.

With Eustace representing the fictive children's personal Hermes, science accrues additional resonance throughout the text in the iconographic form of mountains, which the imaginative youth maps throughout his stories and the framing devices. The notion of comparing the process of learning to scaling a hill is a literary and pedagogical commonplace at least as early as Genesis, in which Moses climbs Mt. Sinai and returns with the tablets bearing the Ten Commandments for spiritual living. John Bunyan incorporates this metaphor as well in *Pilgrim's Progress*, in which Christian must scale the hill "called Difficulty" as part of his quest to find the Celestial City, itself a biblical city on a hill (45, 144). *The Polite Lady: or, A Course of Female Education* (1769) continues this motif with slightly different wording when a mother tells her daughter that "learning is like climbing up a steep ascent." "If you are not moving upwards," she warns, "you will be in danger of sliding down to the bottom" (127). *Harry and Lucy Concluded*, of course, features Harry scaling the Heights of Abraham to learn how to use his barometer, a progress made difficult for this scientific pilgrim because of his bashfulness around strangers and his need for total privacy to work out sums (see Chapter II). Given these examples, it may be useful to better understand Hawthorne's use of hill-climbing by investigating the way that Anna Laetitia Barbauld, the popular British children's author, pens her own allegorical *Pilgrim's Progress* in the essay "The Hill of Science" (1775), a text that neatly encapsulates pedagogy, science, hills, and morality.

As if anticipating Hawthorne's opening to *A Wonder-Book*, Barbauld begins the piece with a narrator who takes a break from a botanic stroll to sleep and dream amid an

autumnal landscape as Rip Van Winkle would in Washington Irving's early-nineteenth-century story. Emerging in this dream is "a mountain higher than [the narrator] had before any conception of," which Genius claims "'is the HILL OF SCIENCE," on top of which lies "the temple of Truth, whose head is above the clouds, and whose face is covered with a veil of pure light"' (29). This mountain is crawling with "a multitude of people, chiefly youth; many of whom press[...] forwards with the liveliest expression of ardour in their countenance, though the way [is] in many places steep and difficult" (28). To stymie progress towards the summit, a horde of temptations sit in wait, including the "wood of error," the "bowers of the Muses," the "fields of fiction," the "dark walk of allegory," a "numerous crowd of Appetites, Passions, and Pleasures," the "bowers of Pleasure," the "cells of Ignorance," the "mansions of Misery," "INDOLENCE," the "stream of insignificance," and the "gulph of oblivion" (31, 32, 34, 35, 36). Gulled by the mere sight of these hazards, the narrator enthusiastically exclaims that "they who are permitted to ascend the mountain" must be "happy," a notion that the "Goddess" refutes: "Happier, [says] she, are those whom VIRTUE conducts to the mansions of Content." "Science," she continues, "may raise you to eminence, but I alone can guide you to felicity!" (37, 38). Here Barbault touts the holistic relationship that science and morality ought to share in a mortal world, a notion that the mountain itself comes to represent in *A Wonder-Book*.

Mountains appear periodically throughout Hawthorne's text as if to lead readers easily through the developing layers of meaning that cluster around the summits as thickly as do the clouds that wreath Monument Mountain and the Dome of Taconic at the beginning of the first framing device. With "so much cloud, and so little solid earth,"

the mountains “ha[ve] the effect of a vision” (6), a notion that echoes the full title of Barbauld’s essay: “The Hill of Science, A Vision.” Hawthorne’s reference to the local mountains, part of the larger Berkshire Taconic landscape that runs through Massachusetts, New York, and Connecticut, positions the reader in a visionary Eden that is specifically New England. Locals know that the Taconic Dome is Mount Everett, at 2,624 feet higher than any other mountain in Massachusetts except Greylock, in the looming shadow of which, Hawthorne writes, “sits Herman Melville, shaping out the gigantic conception of his ‘White Whale’” (Nason and Varney 477-78; Hawthorne, *A Wonder-Book* 169). Thus imaginative endeavor joins forces with science and the misty visions that mountains portend, yoking nature’s moral purity to the pedagogical ascent that readers will climb by book’s end.

Mountains crop up intermittently among the six Greek myths in contexts that reinforce the superior value of a mental virtuosity concerned with moral affairs. In “The Gorgon’s Head,” Perseus uses Medusa’s head to change “an enormous giant” into a “mountain of stone” in Africa (32), a notion that Eustace signifies upon when he compares Monument Mountain “in a recumbent position, stretching almost across the valley,” to “a huge, headless Sphinx, wrapped in a Persian shawl” (36). Mapping the exotic onto the New England landscape with references to Egypt and Persia, the youth attempts to gild the glorious autumnal foliage in Massachusetts with the colonizing touch of the white racial mastery that Perseus appears to be wielding in Africa in the story. This moment is very odd, for nature needs no help here; the reference to Africa, however, cannot help but call to mind contemporary racial slavery in the United States, itself a form of the imperialism at work in the nineteenth century, a venture no less imaginative,

perhaps, than Eustace's and Hawthorne's experiment with recasting Greek myths. Indeed, science itself acted as a colonizing agent (Drayton), a notion that children's botany books celebrated. *The Young Florist's Companion* (Hartford, 1819), a volume published by Samuel G. Goodrich, exclaims that "extraordinary as it may appear, any person possessing a knowledge of the preceding pages, will be enabled to discover, without a guide, the Name of every Plant he may find in any portion of the globe" (29). Thus, armed with "any book of Botany, in which plants are arranged, according to the Sexual System of Linnaeus," the enterprising botanizer can colonize, through the mastery of science, any place he chooses, be it "*Great Britain*" or "*Surinam*" or "*India*" (29, 30). With plants as symbolic subalterns in this scenario, particularly in nations where reside millions of people of color, the metaphorically botanical children in *A Wonder-Book* begin to exude the subtly noxious scent of privilege, which no tincture of nature can eradicate. The exotic golden touch that Eustace applies to nature recurs in "The Golden Touch." King Midas stockpiles massive amounts of gold but cannot sate his obsession for more, no matter how much he "heap[s] up one golden mountain upon another, in his imagination" (44). These hypothetical mountains are far from the sublime "emblems of aspiration and permanence" that Thomas Cole and the Hudson River School of painters embraced (Farr 314n5), for they symbolize a disordered cognitive domain that lives on metaphorically in daughter Marygold's newly gold-tinted tresses once she changes from solid-gold statue back to flesh-and-blood girl. That Eustace can claim that "this change of hue [is] really an improvement" (57) speaks to a crassly commercial regard for the girl's future on the marriage market, a notion that clashes deeply with the purity and morality that her gender and metaphorically botanical name connote, even as it makes

sense given Eustace's tie to Hermes, the god of commerce. Hawthorne's own ambivalent relationship with the literary marketplace here emerges in a knot as tangled as the golden cord that fastens, albeit temporarily, the lid of Pandora's box.

Finally, with "The Three Golden Apples," Hawthorne's version of Hercules' tangle with Atlas to procure the fruit in the title, the language used to describe the Titan echoes that used in the description of the Berkshire range at the beginning of the text. "As tall as a mountain," Atlas is "so vast a giant, that the clouds rest[...] about his midst, like a girdle, and [hang] like a hoary beard from his chin, and flit[...] before his huge eyes'" (103-104). This rhetorical similarity between Berkshire's local range and the Greek giant appears to resituate nature and its attendant moral virtue in the healthy floral commonwealth that Periwinkle and pals know and love. Yet at story's end, Eustace refers to a mountain that is as tall as Atlas and still "bears his name" (110). Here he alludes to the stone mountain in Africa mentioned in "The Gorgon's Head," a connection that many elite auditors among the text's mid-nineteenth-century audience would have been able to make. In the classic myth, the Titan that Perseus turns to stone is Atlas (Graves 239), a detail that Hawthorne omits from *A Wonder-Book* because Hercules, a descendant of Perseus, cannot wrangle with Atlas in "The Three Golden Apples" if the Titan is a mountain of stone (Graves 239, 448). The tie between Atlas and the African mountain, although oblique to some, nonetheless infuses the text with another frisson of tension that undercuts the moral restorative that references to New England nature are supposed to inject. Eustace attempts to reclaim a higher moral ground when he answers Sweet Fern's inevitable question about the Titan's dimensions. Claiming that Atlas "might have seated himself on Taconic, and had Monument Mountain for a footstool!"

(111), the older youth simultaneously uses a familiar part of the landscape to satisfy the little boy's understanding of dimension and scale—an astute pedagogical move well in keeping with his Hermetic and hermeneutic role of cicerone—and ushers into that landscape through the Titan's iconic posture and African connection the gigantic specter of black revolution and consequent white enslavement that loomed so large in many white Americans' fears—fears that contemporary scientists played upon and attempted to quash through experiments meant to prove African and African-American racial inferiority (Stanton). Dense with cultural connotations, this New England mountain bears the moral stain of an American slavery supported by scientific endeavor, a subtle but resonant play upon the “hill of science” that Barbault champions.

That Eustace and the children climb “a monstrous hill, or a mountain” (115) in the last third of *A Wonder-Book* suggests a final reckoning at hand among the votaries of science, domesticity, and morality. Recall in *Émile* Rousseau's provocative implication that Hermes' function “to promote human welfare” would have been served better if he had imprinted scientific knowledge upon the human brain instead of upon marble columns (N. Brown 22). With the “duly prepared” brain established as a superior “monument” for human knowledge (that is, a brain-as-monument morally pure and receptive to the Rousseauian social contract), notions of pedagogy, science, imaginative enterprise, morality, and writing coalesce around a key word—*monument*— (Nugent 1:266) that, serendipitously, perhaps, finds its echo in Hawthorne's Monument Mountain within *A Wonder-Book*. As the kids scale that last mountain at text's end, it makes sense to superimpose on their experience the cluster of connotations surrounding Rousseau's *monument*, even though the specific hill that they climb is not Monument Mountain.

More important here, I think, is the notion of the educational process as a steep ascent that inevitably changes individual perspectives because learners are constantly shifting their spatial relationships with people, places, and ideas. Sandford and Merton, for instance, develop morally and cognitively as they use spatial moves particular to astronomy and arithmetic to adjust their relationship to science, to the world, and to each other. Similarly, Harry expands his imagination by engaging in scientific experiments that require him to rethink his relationship to space, to family, and to society. The kids in *A Wonder-Book*, like Sandford and Merton, learn according to their respective pedagogical levels. Thus “the younger part of the troop have found out that it takes rather too many of their short strides, to measure the long ascent of the hill,” so they remain “mid-way up, until the return of the rest of the party from the summit” (117). At rest on this “sweet and genial” May day, Sweet Fern, Cowslip, Squash Blossom, and Dandelion first drink in a delicious narrative draught from “The Miraculous Pitcher” and then tumble about the spring wild flowers with the “elderly” and “circumspect” dog Ben, a literary predecessor to J. M. Barrie’s Nana if ever I saw one (138). It is apt for these botanical youngsters to while away their time “amid so much new life,” for they can see themselves symbolically reproduced in the tender buds springing up from grass and field and feel pleasantly at home (117). Indeed, their short legs probably also tire out first as a symbolic indication that these children still require a closer proximity to family and household to feel rooted and nourished. To underscore this idea, Hawthorne plants in this section a homey description of “the little Housatonia,” that “sociablest of flowers” that “never lives alone, but which loves its own kind and is always fond of dwelling with a great many friends and relatives around it,” all “keeping one another in cheerful heart and

life” (116). This domestic description could have come from Mary Peabody Mann’s *Flower People*, so cozy and familial is its botanical focus. Thus the Quicksilver-like Eustace, responsible for guiding the children from his mountain path back to their families, keeps the youngest in the spot most attuned to their developmental needs and then slakes their thirst for imaginative enterprise with a Greek myth designed to stimulate moral growth. Rooted to their fellow wild flowers, if only symbolically, these tiny botanical juveniles form a perpetual miniature kindergarten in their fictive Massachusetts and on the real printed page, signifying both a metaphysical and a concrete monument to the imaginative possibility of the human brain.

The older children, on the other hand, experience an epistemological change at the top of the mountain because their spatial relationship to the world shifts significantly. Eustace leads them to the center of “the highest point of the hill” and [bids] them look around, and see how large a tract of [their] beautiful world they [can] take in at a glance.” Their physical reaction to the view—“their eyes [grow] wider as they look[.]”—indicates that their brains are working to register the new set of data that the vista affords. “So many farm-houses, with their acres of woodland, pasture, mowing-fields, and tillage,” assault their gaze that “the children [can] hardly make room in their minds to receive all these different objects.” Different, too, are the topographical features that appear so enormous at home; from this lofty perch, they dwindle in size and significance. Thus Monument Mountain, “to the southward, [is] still in the centre of the scene, but seem[s] to have sunk and subsided; so that it [is] now but an undistinguished member of a large family of hills.” Most extraordinary, perhaps, is the effect that height has upon the view of Tanglewood. “Hitherto thought such an important apex of the world,” it “now

occupie[s] so small a space, that [the children] gaze[...] far beyond it, and on either side, and search[...] a good while with all their eyes, before discovering whereabouts it [stands]" (142). This striking change in perspective, brought about by adjusting the children's sense of scale and proportion through a significant upward movement in space, subtly introduces geometrical principles to the scene. Tanglewood is now an "apex," and a miniscule one at that, for the children engage in a lot of fruitless searching before their eyes light upon it. Indeed, that Hawthorne uses the phrase "all their eyes" suggests here an intense communal labor with which the children had not formerly been familiar. This scene intimates as well that the children are being confronted with the idea that their home, so vitally important to their families and to their own senses of identity and self-importance, is but one among many. Home is still important, of course, but their homes are clearly not the center of everyone else's existence. Monument Mountain, on the other hand, takes center stage from this mountain-top view, just as it does back at Tanglewood. It may appear here as "an undistinguished member of a large family of hills," but its diminished size makes it cozier, more accessible, another member of the Taconic family range that spreads across the Berkshires and gives the local landscape its unique topographical and indelibly American signature. Monument thus seems much more domestic than sublime, an apt symbolic tablet upon which to note the pedagogical strides that the children are making as they combine geometric principles, communal labor, and their imaginations to calibrate a new epistemological fit in the world they thought they knew. That Greek myths themselves frame this mountain-top vision only renders the experience more morally sound than the natural setting alone can provide. The myths, in fact, call to mind the idea that imaginative enterprise, like Quicksilver, confounds

containment. Thus the children's dawning awareness is itself an act of cognitive virtuosity attuned to their specific developmental needs. Watching the external world sets in motion a Hermes-like mental acrobatics that, in the end, manipulates the external environment into a new ontological order represented by—or, rather, writ small upon—the sunken ridges of Monument Mountain.

NOTES FOR CHAPTER III

¹ This quotation appears on p. 14 in the 1831 original; here I quote from Keeney 74.

² Valuing imagination over the concrete products of science and technology, even when it meets cultural or personal derision and mockery, is a Hawthorneian tendency that scholars have been discussing for decades. The most enduring critical current focuses on the ways that Hawthorne infuses his texts with his distaste for science, a concept most famously associated with Leo Marx, who introduces in a 1956 article the ways that he sees Hawthorne reacting to the American industrial revolution, an argument that he fleshes out in book form in 1964 and readdresses in 1999-2000 in *Massachusetts Review*. See also Hosmer; Rosenberry; Levy; Crews; Kloeckner; Stein; Pattison; Stoehr; Ferraro; Heilman; Coale; and Hartnett.

Less well known but certainly more flexible and provocative in its approach to Hawthorne and science is the scholarly thought that Hawthorne simply is not as ham-fisted about science and technology as most critics believe. Mary Rucker and Barbara Eckstein each interpret "The Birth-Mark" as a champion of scientific wonders and a cautionary note about scientific methodology or usage, a line of thought consonant with H. Bruce Franklin's 1966 article about Hawthorne's science fiction and with John Keith Limon's 1981 dissertation concerning Hawthorne's novels. In 2000 Randall A. Clack published a book exploring the intricate ways that Hawthorne draws on alchemy and science for regenerative or redemptive purposes.

³ For Elizabeth Palmer Peabody's role as a pioneer for kindergartens in the United States, see Baylor; Peabody 309, 311-12, 347, 349-50, 353-68, 375-76, 383, 429-30; Tharp 289, 318-26, 327.

⁴ Although sister Elizabeth Hawthorne checked out materials for her reclusive brother at the Salem Athenaeum (Mellow 39), I suspect that she made her choices based on Hawthorne's preferences as opposed to random blind selections.

⁵ Although, as Raymond Phineas Stearns points out, Linnaeus's classificatory system met with protest or indifference in various European circles, "the facility with which his plan of classification could be applied recommended it, especially to the American colonists, and his sexual system prevailed widely from about 1760 until the early nineteenth century, when it was gradually supplanted by a natural system, the nucleus of which was first set forth by Antoine Laurent de Jussieu's *Genera Plantarum* (Paris, 1789)." The Swedish naturalist's "contribution to nomenclature in natural science," however, "had more permanent influence." His "masterly use of Latin in his generic descriptions provided botanists with a useful new technical vocabulary" that continues

today. Indeed, in 1905, “at an international conference held in Vienna, botanists agreed to adopt the Linnaean botanical names employed in the first edition of the *Species Plantarum* as the starting point for modern botanical nomenclature, abandoning all earlier names unless Linnaeus, too, had adopted them. The development of the binomial system in the naming of new plants is carefully guided today by rules drawn in the *International Code of Botanical Nomenclature*, adopted in 1959. Thus, Linnaeus’ binomial nomenclature lives on” (Stearns 531, 532). For further information on Linnaeus’ role in popularizing botany in Great Britain, see Shteir, *Cultivating Women* 13-21, 29, 200-201; and Scourse 3, 5, 15, 69-70. For treatments of Linnaeus in the American colonies and the early United States, see Stearns 526-33 and *passim*; Hindle *passim*; Struik *passim*; Greene *passim*; Oleson and Brown *passim*; Daniels 112-13, 115; and Keeney *passim*.

⁶ Hawthorne’s reading list from the Salem Athenaeum is full of “Travels,” “Tours,” “Voyages,” and other such immediately identifiable signifiers of travel literature. See “Books.”

Hawthorne’s interest in travel and natural history was preceded by that of his father, Nathaniel Hathorne, and his uncle, Daniel Hathorne. “Following his voyage as master of the *Mary and Eliza*, Nathaniel Hawthorne [*sic.*] was voted on November 7, 1804, into the Salem East India Marine Society, of which his older brother, Daniel, had become a member at its founding in 1799. Its members, now numbering fifty-eight, had served as captains or supercargoes on voyages by way of either Cape Horn or the Cape of Good Hope” (Turner 7). As Walter Muir Whitehill tells us, this society was formed for multiple purposes. In addition to forming a social collective, this group of men aided the widows and children of “deceased members,” “collect[ed] such facts and observations as may tend to the improvement and security of navigation,” and “form[ed] a Museum of natural and artificial curiosities, particularly such as are to be found beyond the Cape of Good Hope and Cape Horn.” In 1821 the museum’s catalog, “listing 2,269 objects,” was published and “bears witness to the scientific conscience of these adventurous mariners” (170, 171).

⁷ Scholars often regard as faddish the American fascination with mesmerism and phrenology during the 1830s and 1840s. While Hawthorne read up on both subjects, he found them distasteful and untrustworthy, as can be seen, e.g., in his letters to Sophia in October of 1841 and June of 1842 (*Letters* 15:588-90, 634). Those qualities, however, made for evocative literary material, as critics have noted repeatedly concerning key characters in *The House of Seven Gables*, *The Blithedale Romance*, “Ethan Brand,” *The Scarlet Letter*, and “The Birth-Mark.” For studies of Hawthorne’s personal and artistic responses to phrenology and mesmerism, see especially Hosmer; Stoehr, “Hawthorne and Mesmerism,” *Hawthorne’s Mad Scientists*, and “Physiognomy and Phrenology in Hawthorne”; Coale; Hartnett; and Limon 337-413.

⁸ In his letter of 23 Jan. 1778, Henry de Ponthieu informed Sir Joseph Banks that African slaves could be useful in helping British planters gain intellectual control of exotic botanicals. The French, he wrote, “‘have long accusom’d to avail themselves in [Caribbean] plants in Physic and surgery being instructed by the new Negroes that arrive

from the different parts of the African continent.’” Three months later, on 29 Apr., de Ponthieu “urged that the British also should interrogate their slaves for botanical and geographical information” (qtd. in Drayton 93; 93).

Slaves’ knowledge of natural resources also advanced British and Anglo-American access to and control over mahogany, a highly prized resource for eighteenth- and nineteenth-century shippers and cabinetmakers that grew increasingly “precious” as its quantity and quality rapidly diminished over time. Jennifer L. Anderson discusses in some detail the key roles that slave laborers played in locating, cutting, and transferring to water routes the valuable mahogany found in the Bay of Honduras and the Mosquito Coast (in Belize) during the eighteenth and nineteenth centuries after merchants depleted to near extinction the much sought-after mahogany growing in the West Indies. As Anderson explains, “so-called Baymen, the small population of Englishmen (probably former buccaneers),” illegally lived “in Spanish territory in makeshift enclaves along the shore” and heavily “relied on enslaved Africans as the primary workforce to undertake the brutal, hazardous labor of downing and transporting the massive trees” that the Baymen then traded to English and North American shippers anxious to feed the escalating European and Anglo-American consumer demand for mahogany products, particularly furniture (57). Her study suggests to me that the Africans’ “valuable natural knowledge” aided British and American advances in botanical study as well, for that knowledge, combined with African labor, made accessible and thus possible botanical identification of new varieties of mahogany (58; see specifically 57-61 for slave labor).

⁹ For a collection of essays concerning American scientific and learned societies from the colonial era up to the Civil War, see Oleson and Brown.

¹⁰ See Keeney 1 for quotation. See Saunders 85-100 for botanical treatises; Farr 69, 84 and Keeney 51-67, *passim*, for botanical textbooks used in American seminaries and secondary education; Ford for college texts on botany; Keeney 78, 85-90 and Rosenbach 124, 151, 176, 184 for children’s botany books; Farr 39, 69ff., Scourse 37-38, 49, 56, Bermingham 208-210, and Hobbs for the language of flowers; Bermingham 212-24 and Keeney 43, 79 for instruction manuals on flower painting; Keeney 43, 79 for construction of wax flowers; and White, Langdon, and O’Malley on garden advice books.

¹¹ See Klimas for interesting anecdotes behind the names of various Massachusetts wild flowers like bloodroot and liverleaf (10, 48).

¹² Jean E. Friedman studies the ways in which Jacob Mordecai, the founder of the Warrenton Female Academy in North Carolina, and his family, particularly his daughter Rachel, adopted and adapted Richard Lovell Edgeworth and Maria Edgeworth’s *Practical Education* both at school and at home. Friedman also includes “The Diary of Rachel Mordecai Lazarus,” begun in May of 1816 and continued until Dec. of 1822, which “records the moral instruction of her half sister Eliza” on Edgeworthian principles (xv).

¹³ It is strange that I have not found any mention of Wakefield's relationship to Lucy Barclay Galton in my research of secondary sources. This gap, especially in Shteir, in Gates, and in Davidoff and Hall, may be attributed to a lack of knowledge or, perhaps, a disinclination to include the information in a particular project. The latter possibility, however, would be a curious reason for omission, given the progressive educational projects that these scholars are fond of exploring among eighteenth- and nineteenth-century women writers.

Darton's coverage of Wakefield's life and milieu, although brief and silent on the Wakefield-Galton tie, is still surprisingly meaty (167-68).

¹⁴ In Arthur Conan Doyle's short story "A Scandal in Bohemia," Sherlock Holmes chastises his partner Dr. Watson with the now-classic line, "You see, but you do not observe" (162).

¹⁵ By the 1870s, the adjective "wide awake" was pervasive enough for children's book publisher Daniel Lothrop to issue a magazine for children entitled *Wide Awake*, in which Margaret Sidney's classic *Five Little Peppers and How They Grew* first appeared in installments (Burr, "Beneath the Umbrellas" 25, 64-65n10). Sidney's text also incorporates this popular adjective in reference to Polly Pepper, the ten-year-old sister around whom much of the story operates. When Polly must be confined to bed rest to recuperate from a severe case of measles that threatens her eyesight, her "active, wide-awake little body" recoils in "horror" from "the very idea" of not "do[ing] anything" (Sidney 67).

¹⁶ Sophia spells *Thalictroide* with an *ec* instead of the correct *ic*. According to sister Mary Peabody Mann's botany book *The Flower People*, "Thalictroides . . . has smooth, roundish, heart-shaped leaves" (49).

¹⁷ Hawthorne uses edenic rhetoric as well. In a note to his sister Louisa on 10 July 1842, the day after he wed Sophia Peabody, Hawthorne notifies his sibling that following the ceremony, he and his bride "came straight to Paradise," their new home in Concord, Massachusetts (*Letters* 15:639).

¹⁸ Lines 304-07 of Book 4 in *Paradise Lost* read:

She, as a veil down to the slender waist,
Her unadornèd golden tresses wore
Disheveled, but in wanton ringlets waved
As the vine curls her tendrils.

¹⁹ Natural theology was a staple in American botany textbooks from Amos Eaton's *Manual of Botany* to Almira Lincoln Phelps's *Familiar Lectures on Botany* to Asa Gray's *Botany for Young People*. "Texts on natural theology were also standard reading at many colleges, and in some academies," states Elizabeth B. Keeney. "William Paley's *Natural Theology*, which went through more than fifty American printings between 1802 and

1865, was among the most popular textbooks on any subject for academy and college students in antebellum America. The inclusion of Paley among the textbooks that a school used indicated both [Protestant] orthodoxy and high standards well into the [nineteenth] century, and his basic ideas formed the core of American natural theology" (100-101, 101). Hawthorne would have been well versed in Paley's ideas, for, as Alpheus Spring Packard tells us, "'Paley's Evidences,'" along with "'Butler's Analogy'" were required reading in Bowdoin's "course in Christian evidences" during Hawthorne's undergraduate tenure at the college (Cleaveland 88).

²⁰ Elizabeth Peck views the children's vigorous play as nonsexist, for girls and boys engage equally willingly in hearty and in quiet activities (117).

²¹ Peck argues that Hawthorne's frequent references to the children as a "collective unit" incorporate "both the mutual interests and the common activities of *all* Hawthorne's children, both fictional representatives and real life auditors" (117).

²² "The effect" of the children's botanical names, says Peck, "is that each character is recognized primarily as a person, and only secondarily as either male or female" (117).

²³ In reading Hawthorne's letters between 1813 and 1853 and Sophia's journal of their life together, as well as Tharp's biography of the Peabody sisters and of Horace and Mary Mann, I have not found evidence that Hawthorne read Mary's *Flower People*. That he would have known about it seems probable, given how close Sophia was to Mary and how interested in flowers, books, and children both sisters were.

²⁴ For more information on animal tales and other related topics, such as animal children, curers, guardians, languages, mimes, nurses, paramours, and thieves, see Leach and Fried 59-62 and *passim*.

²⁵ Herbert explores in detail Hawthorne's often ambivalent relationship with his children, especially his oldest daughter, Una, for whom, Herbert asserts, Hawthorne harbored a sexually "fascinated repugnance" when his gender ideology conflicted with her behavior (180, 177-83, 203, 223-24, 257-60). See also 264-65 for his resentment of his children; 183 concerning his worry about Julian; and Hawthorne's *Twenty Days* for his complex mix of love and frustration over caring for Julian while the rest of the family is away visiting.

²⁶ Squash Blossom appears not to fit well in the younger category via this seasonal subject grouping. In her journal Sophia notes that Hawthorne's vegetable garden is "overrun with cucumbers & summer squashes" by late August (Valenti, "*American Notebooks*" 138). While Hawthorne may be exerting poetic license here, punning on posies and poesy as Victorians were wont to do, he also may be laughing in his grave to see me attempting to make sense out of what may be sheer fancy.

²⁷ Butter-cup, for instance, is as sweet as the rest of the children, despite the flower's known toxicity in cows (Klimas 39).

²⁸ Elizabeth Palmer Peabody's three-volume series begins with *First Steps to the Study of History* (1832). In 1833, her successive titles, *Key to History. Part II: The Hebrews* and *Key to History. Part III: The Greeks* appeared (Tharp 87). Tharp states that the third book "contained not only questions but translations from Homeric hymns by Chapman and poems from *Blackwood's Magazine*" (10).

Elizabeth had also planned to launch a book including "questions on Grecian Theology and Mythology together with heroic legends," for each of which she wanted her sister Sophia to provide drawings "either of a statue or a gem or a cameo." Sophia, however, suffered from severe headaches, which grew worse the more she worried about Elizabeth's project, a situation that led Elizabeth to abandon that particular idea (Tharp 69ff.).

²⁹ According to Myerson, the seventh meeting of Fuller's 1841 series of conversations was held in "Elizabeth Peabody's rooms in Boston" instead of in Ripley's house (192; see also 187n2).

Caroline W. Healey Dall reports that "*about thirty persons usually attended*" each of these weekly conversations, including George Ripley and Sophia Dana Ripley, Frederick Henry Hedge, James Freeman Clarke, Mrs. Farrar (born Rotch), Francis G. Shaw and Mrs. Sarah B. Shaw, Ann Wilby Clarke, Mrs. Jonathan Russell and her daughter Miss Ida Russell, William White, William W. Story, Mrs. Anna Barker Ward, Jones Very, Elisabeth Hoar, W. Mack, Marianne Jackson, Sallie Gardiner, and Charles Stearns Wheeler, whom Dall notes was "the only sound Greek scholar among us" (17-21, 120, 22).

³⁰ For 4 May 1843, Sophia writes in her journal, "Last Thursday 4th I took the first walk into the woods with my Phoebas Apollo." She also acknowledges her husband's dislike of clearing yard rubbish with similar rhetoric: "Apollo among his herds could not have looked so out of place as thou with saw & axe & rake in hand" (9 May 1843; Valenti, "*American Notebooks*" 135).

³¹ Mellow identifies Guido as Guido Reni, whom Farr calls "the Victorian favorite" (Mellow 203; Farr 275). Valenti, on the other hand, assumes that Guido is Guido da Siena, a 13th-century Italian painter ("*American Notebooks*" 180).

³² See 1:354 of Julian Hawthorne's 2nd edition of *Nathaniel Hawthorne and His Wife* (1885).

³³ Una was born on 3 March 1844; Julian, on 22 June 1846 (Mellow 239, 273).

³⁴ See 1:407 of Julian Hawthorne's 1885 text.

³⁵ In an anecdote about Benjamin Vaughan, Cleaveland states that "it was his ambition to prove that his favorite town [Hallowell] was the coldest place in the United States."

Thus, “in his zealous desire to see it cold enough for the congelation of quicksilver, the good doctor sometimes sat up till morning, running out bareheaded every half-hour to inspect the thermometer” (82).

In a letter to Louisa Hawthorne dated 4 Feb. 1844, Sophia discusses a particularly frigid fortnight, “the coldest for an hundred years, as the papers averred.” In addition to describing her own diminishing patience with the weather, she mentions Hawthorne’s reaction to the cold: “Nathaniel blasphemed superbly whenever he looked at the thermometer, & constantly protested he would not consent to it; but without the least effect. At last to save us all, the first of February dawned with a temperature thirty degrees warmer than the day before!” Louisa returns the following comment nearly two weeks later: “I am not surprised at Nathaniel’s mode of expressing his impatience, having myself heard him use very *strong language* on such occasions” (Hawthorne, *Letters* 16:12-13 and 15 Feb. 1844, 16:14n2).

³⁶ “On dit qu’Hermes grava sur des colonnes les élemens des sciences, pour mettre ses découvertes à l’abri d’un déluge. S’il les eût bien imprimées dans la tête des homes, elle s’y seroient conservées par tradition. Des cerveaux bien préparés sont les monumens où se gravent le plus surement les connaissances humaines” (Rousseau 2:76).

³⁷ In Nugent’s English translation, the Hermes illustration is placed on the page opposite the Hermes excerpt. The caption, “HERMES, Livre III,” remains essentially the same. See 1:266-67.

³⁸ Kern justifies Hawthorne’s endeavor through the author’s need to feed his family. Pearce, on the other hand, as John Lednicky cogently argues, “sets the tone for subsequent critics who explain Hawthorne’s satisfaction with the mythological juveniles as a reflection of the domestic happiness and commercial success he enjoyed during this middle phase of his career” (144n4), a notion that helps keep current a blithe disregard and disrespect for children’s literature in general and Hawthorne’s juvenile stories in particular because readers, apparently, are meant to believe that Hawthorne liked *A Wonder-Book* and its sequel *Tanglewood Tales* only because he was happy, not because he found in them any literary value. Miller describes Hawthorne’s writing of *A Wonder-Book* as “taking a holiday” (348)—ostensibly from the so-called real work of writing various short stories, *The House of the Seven Gables*, *The Blithedale Romance*, and *The Marble Faun*, in addition to *The Scarlet Letter*.

³⁹ Whitney, Doudna, and Ginsberg focus solely on the ways Hawthorne characterizes girls within domestic and/or theological ideologies; Collins and Brown compare and contrast Hawthorne’s juvenile and adult females to highlight the conflicts and difficulties that nineteenth-century women endured.

⁴⁰ Children’s literature historian F. J. Harvey Darton claims that *A Wonder-Book* and *Tanglewood Tales* “are essentially timeless and raceless” (229).

⁴¹ Irmscher writes that “the story of Barnum’s museum is a story of boundary crossings,” “perhaps” the “most important” of which is “between those who really *are* people and those who are *not*, that is, between humans and animals. Barnum’s strategy was so phenomenally successful because these transgressions remained transient experiences, safely temporary violations that would help to reinforce, if not create, the reassuring ‘normalcy’ of the visitor’s view of ‘himself’” (107). Likening the king’s subjects to Barnum’s visitors, each set crowding to see the perversely unnatural and exotic, makes sense here, for it plays into Hawthorne’s cultural sense and his distaste for those who trammel upon nature’s so-called innocent wonders.

⁴² The story of Baucis and Philemon can be found in Book 8 of Ovid’s *Metamorphoses*.

CODA

We went, one afternoon ... to the Agassiz Museum; and I was perfectly delighted at the lovely botanical collection of flowers,—that is, my dear, it is a collection made for botanical purposes, where you can study carefully all the parts of the flower. For, instead of having to work with the fading stamens or seed-vessels, you have them all perfect, because they are made of glass. I think one shudders at the idea of glass flowers, as being something artificial and conventional; but just one glance at these beautiful specimens made me perfectly in love with them. They are surely the most wonderful and beautiful things I ever saw.

Lucy Sandford, *The New Harry and Lucy* 160-61

In 1892, the same year that publishers Houghton, Mifflin first issued Hawthorne's *A Wonder-Book* with Walter Crane illustrations, Roberts Brothers published an epistolary novel entitled *The New Harry and Lucy: A Story of Boston in the Summer of 1891*. Written by the brother-sister tag-team of Edward Everett Hale and Lucretia Peabody Hale, both popular authors of a wide variety of books and articles for adults and for children, this joint creative enterprise blends the writers' love for their native Boston with

their childhood fondness for Thomas Day's *Sandford and Merton* as well as Maria Edgeworth's *Harry and Lucy*. The plot is quite simple: New Englanders Harry Merton and Lucy Sandford meet, fall in love, and get married in a span of time sufficient for them to familiarize themselves with the city's cultural highlights—museums, exhibitions, botanical gardens, and whatnot—and secure positions of authority in South Boston among the largely immigrant poor and working classes. By novel's end, Harry has been promoted to “overseer” of his company's new South Boston branch, while Lucy has settled comfortably into her role as volunteer in a kindergarten at a South End vacation school (317). Dreaming together in the large, sunny rooms of their new brick house, which happily provides from the upper story “a glorious view” of the “beautiful harbor, all dotted with islands, and between them, far beyond, the horizon of the sea,” Harry and Lucy can envision watching over “all the men and their families” from the factory and all the pupils from the vacation school (320). To complete this auspicious beginning, the Reverend Dr. Primrose presides over their Christmas wedding in Vermont.

While managerial, philanthropic, and pedagogical aspirations form the focus of the couple's social and moral experiment, Lucy's enthusiasm for botany tells us that science and imagination are very much alive in her world as they lurk among the landscape in floral shapes both familiar and exotic. Writing to her friend Kate, Lucy admits that a local area blooming with wild flowers so “enchanted” her that she “wanted to botanize directly,” an impulse that she satisfies metaphysically by demanding if Kate can remember the “*Astragalus*” that the two of them “‘did’ last year in Vermont with [their] Gray's Botany” (91). That delight triggers the drive to “do” science in this moment suggests a thriving ideological continuity from the late eighteenth and mid-

nineteenth centuries, when Day, Edgeworth, and Hawthorne set forth in print the notion that didactic endeavor and inventive skill could operate symbiotically in minds open to possibility. The dense complexity that this possibility suggests is made manifest in the Agassiz Museum's wondrous glass flowers. Although these flowers are beautiful, they are artificial, and as such reproduce the form but not the essence of the wild flowers that spur Lucy's urge to botanize. Lucy may indeed love these glass flowers extravagantly, but her love has little to do with the scientific activity that these very flowers were created to incite. She does not itch to botanize but to romanticize, a splendid emotion certainly but not one designed to prompt creativity and purpose. Indeed, compared to these "perfect" glass creations, "the most wonderful and beautiful things" that Lucy ever saw, real botanicals and their constituent parts appear diminished, shabby, the stamens and seed-vessels "fading" into obscurity and meaninglessness. Calling the glass flowers "specimens" introduces another level of tension, for the science behind the individual pieces lies not in their shapes as much as in their substance. Glass is an interesting material because it is neither a liquid nor a solid; rather, it is a supercooled liquid that solidifies from a molten state without crystallization, which sets it apart from the typical categories of gas, liquid, and solid with which the average person in 1892 might have been familiar. Yet by shifting the site of this material from the everyday form of spectacles, windows, or tumblers to the rarefied contours of botanically perfect museum pieces, the science that glass signifies disappears, confounded by the exoticism of physical perfection that, ironically, invites a scientific signifier. Agassiz's Museum thus morphs into a Barnum-like curiosity cabinet at "just one glance" as Lucy's "glance" absorbs just enough information to incite an extravagant emotion that, as Christoph

Irmscher says of Barnum's venue, "appear[s] to be an end in itself" (114). What else would it mean to be "perfectly in love"? While Lucy's boundless wonder may be relatively innocent here, it nonetheless cautions us to be wary of how easily human enthusiasm can vault past the rich interplay of science and creativity, even in the mind of a college graduate with solid philanthropic and pedagogical objectives, simply because it is possible.

The rich Anglo-American culture that Boston represents, particularly through its monuments to scientific virtuosity nurtured by the city's and the nation's most esteemed collegiate institutions, is ready at novel's end to move into a dynamic and sun-lit future as upstanding as the "glorious" view from Harry and Lucy's upper-story windows. This exalted space symbolically heightens the couple's moral and intellectual position as caretakers of the laboring immigrant poor, reaffirming that they rightfully receive the social privileges awarded them as native-born white elites. Yet while theirs is a world founded on the strength of a scientific and creative tradition that their very names invoke and support, it is also a world fraught with peril and infused with potential, in which botanical glass flowers stand for the wildly competing interests of human curiosity, inventive possibility, scientific capability, and moral responsibility. This Harry and Lucy, united by a Primrose, thus suggest with their dreams of a brilliant tomorrow that a flexible imagination, imperfect as it may be, is the best moral compass available.

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